

SPORT & VINE





PORT WINE

POR^T WINE

*Notes on its History
Production & Technology.*

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*Printed by the Litografia Nacional—Porto
1981*

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*Instituto do Vinho do Porto
PORTO*



TP 559
P8 P59
1981

315-149104



PREFATORY NOTE

It is with great pleasure that the Instituto do Vinho do Porto at last publishes "PORT WINE – Notes on its History, Production & Technology", a work begun in 1972 and completed in 1973 under the auspices of the Grémio dos Exportadores de Vinho do Porto.

In 1974 the Grémio was abolished. Some time afterwards the Associação dos Exportadores de Vinho do Porto was established, which, however, had no funds available for the publication of this work.

For various reasons it has only now become possible to print it. The original draft has been brought up to date in some points.

Its appearance is the result of kind assistance from various quarters, and it is only right to list them here.

We should therefore like to express our thanks to:
The Ex-Grémio dos Exportadores de Vinho do Porto for having given this work every encouragement, without which it would never have been undertaken;

The authors, for the proficiency and devotion shown;
Eng. João de Brito e Cunha, the former director of the Instituto do Vinho do Porto who, having approved the idea, always showed the greatest interest in its progress;

Dr. João Araújo Correia, the well-known short-story writer, with a profound knowledge of the Alto Douro, who devoted great care to the reading of the manuscript, giving it his literary blessing;
Mrs. Suzanne Chantal and Mr. John Cobb who have translated the text with care and skill;

The Portuguese Air Force having made it possible to take the aerial photographs;

To all those who are not mentioned but are not forgotten and who helped in any way in this work.

29/6/85

INSTITUTO DO VINHO DO PORTO

A FEW WORDS OF INTRODUCTION

Port, the subject of this short study, is a fortified wine produced exclusively in the Demarcated Region of the Douro valley.

Here natural and human elements have combined to create not only one of the most important but one of the most singular centres of viticulture in the world. A highly favourable climate and land which, though extremely irregular and shaly, is of unusual porosity enable time-honoured varieties of vine to produce wines of exceptional quality.

Although Port takes its name from the city that exports it, the vineyards themselves lie some 100 kilometres inland on the rugged flanks of the middle and upper Douro valley.

In this monograph we have given a short history of this noble wine, and have tried to show how it developed its unique character.

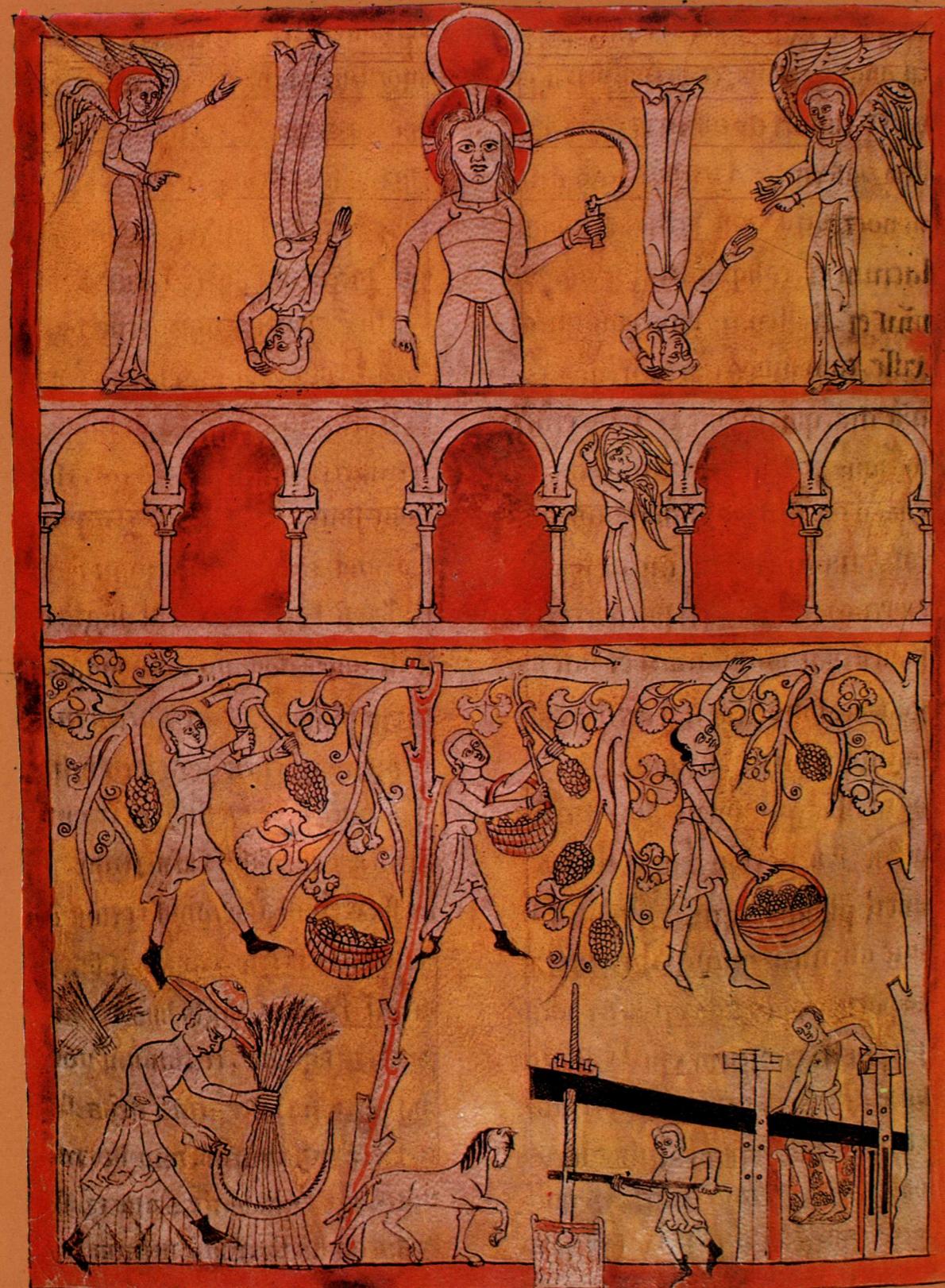
We have outlined the guiding factors in drawing up the survey of the vineyards, and the way in which these are classified.

We have described the various types of Port, and given some idea of the legislation which over the years has protected, and still protects, the wine's good name.

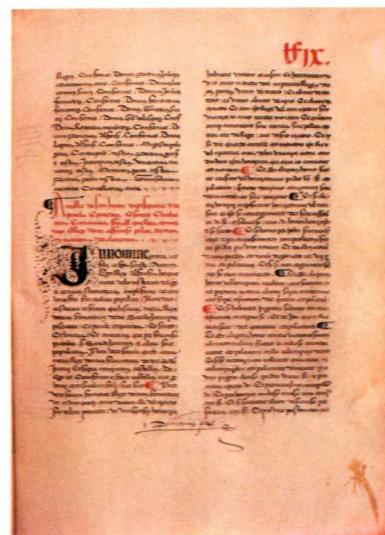


"Douro river and country, is perhaps the most serious reality of Portugal".

Miguel Torga in "Portugal"



"The Vintage" from the Codice Apocalipse of Lorvão (12th-c.).



Charter of S. João da Pesqueira.
A transcription by Damião de Góes
using the "new lettering".

(1) Russel Cortez, *As Escavações Arqueológicas do "Castellum" da Fonte do Milho*, Anais do Instituto do Vinho do Porto – 1951.

(2) Id., *ibid.*

(3) Id., *Mosaicos Romanos no Douro*, Anais IVP, 1946.

(4) F.M. Alves (Abade de Baçal), *Viniculura Duriense, Estudos Durienses N.º 3*, Régua 1938.

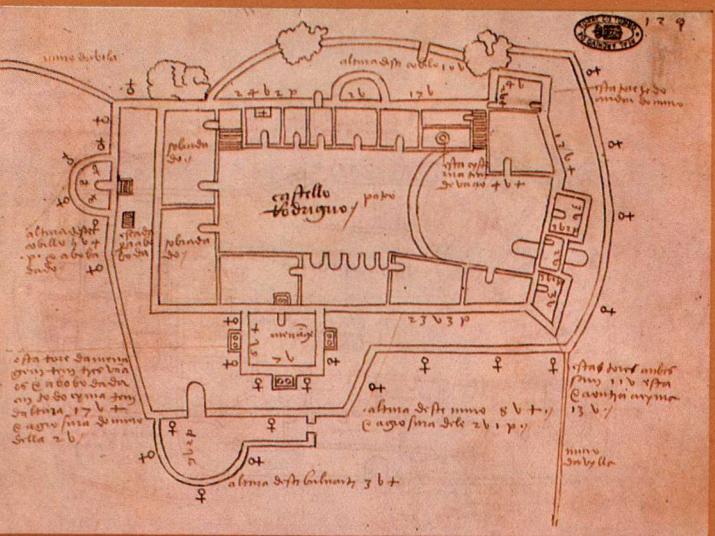
1.1. THE WINE OF THE DOURO IN EARLY TIMES

The growing of vines in the Douro Region goes back to pre-historic times. In burial grounds of different periods of the First Bronze Age and up to Third Bronze Age grape pips and even charred vine boles have been discovered. ⁽¹⁾

With the Roman occupation vine-growing greatly expanded. Excavations carried out at Fonte do Milho ⁽²⁾ – overlooking the Vale de Covelinhas – and at Quinta da Ribeira ⁽³⁾, at Tralhariz, on the left bank of the Tua river, show the growth and prosperity which the vine brought to the Region. The Visigothic Code of the VIIth century also makes mention of its cultivation ⁽⁴⁾; and around the year 700, although almost the entire Iberian Peninsula was under Saracen control, it is known that Alfonso I of Asturias liberated, albeit not conclusively, the whole Douro region. The *forais*, or statute of rights, of S. João da Pesqueira in the 11th century, and those of Freixo de Espada a Cinta in the 12th century, both refer to the planting of vines and to the payment of tribute by the inhabitants in wine. Once Portugal became an independent kingdom in the 12th century, the importance of the Douro vineyards is clearly shown by references to them in the local charters granted to the townships that were springing up on either bank of the river. All mention the obligation laid on the inhabitants to pay a contribution in wine. The charter granted to Vila Nova de Gaia in the reign of Afonso III in the 13th century makes any boat laden with wine for this town subject to tax. From this simple fact we may assume that the shipment of wine down the Douro to Vila Nova, which centuries later was



Castle and plan of Freixo-de-Espada-à-Cinta taken from the "Livro das Fortalezas" by Duarte de Armas (16th-c).



Freixo-de-Espada-à-Cinta as it is today.





Vinha de Enforcado or "Hanging Vines".

◀ The Castle of Lamego. Lamego, a town which has played an important role in Portuguese history, dates back to very early times. Up to the end of the 17th century it was the hub of the Douro wine district. Until then Douro wines were known as Lamego wine.

(1) About 5 000 litres.

(2) At the Parliament of 1211, King Afonso II decreed that no one might cut Vines. These were considered "Possessions of our Kingdom".

(3) Joaquim Veríssimo Serrão, *História de Portugal*, Vol. I page 212 and Vol. II page 270.

(4) This refers to a form of cultivation of Roman origin, now known as "enforcado com a casta Amaral", in which the vines are grown up trees and allowed to trail or hang.

to become the entrepot for Port, was already of some importance. Early in the 14th century we find that King Dinis received, among many other products from the district of Lamego, "six moyos of wine" ⁽¹⁾.

Costa Lobo, confirming the importance of wine-growing in this district, states: "Lamego, by the middle of the 15th century, was sending cereals, olive oil and wine to Oporto", and claims that "the banks of the Barosa, which flows into the Douro in this region, produce some of the kingdom's finest wines." In fact wine appears as one of the most valuable products of the Portuguese economy ⁽²⁾ since the beginning of the nation. It is known that wine was being shipped to France ⁽³⁾ since the 13th century but the big trade came in the 14th century with the increase of shipments, notably to Bruges, Rouen and Honfleur.

In the 16th century Rui Fernandes, in his "Description of the country two leagues around the city of Lamego", gives us some idea of the extent of the vineyards in this area. Thus among the places paying tithes in wine, he mentions: recião, lazaram, varzea, alvelos, calvilhe, figueira, queimada, armamar, salzedas, gouveaes, granja nova, pennajoia, tarouce, ferreiros, barqueiros, moura morta, sedielos, meijam frio, villa marim, fontes, lobrigos, oliveira, loureiro, rego, fontelas, poiares, cambres, sande, çamudães, baldigem, fontello, medrões, etc..

This testimony is of peculiar interest since the places names may be said to comprise the whole of the area known today as the Baixo Corgo, as well as some which lie outside the limits of the present Demarcated Region. So Lamego was already for those times a great wine-producing centre. Confirmation of the fact may be found in another passage by Rui Fernandes: "Cultivation in the area yields 306 700 almudes (about 10 000 pipes), and of the most excellent wine, and among the best aging to be found in the Realm, and the most fragrant, for there are wines of 4-5-6 years and the older they are, the more excellent and perfumed they become: and there are some grown as "amarães" ⁽⁴⁾ though only about a tenth part of the other. The greater part of all the wines of this district are shipped down the Douro in barges for Oporto and for twixt douro and minho, for Lisbon, for Aveiro, for the islands and for the fleets of our lord the King and for these the "amaraes" wines are bought and others

(1) Allowing for the errors implicit in any attempt to equate currency values of different periods, and based on a study made by J. Ferraro Vaz, this in 1978 values gives a price per pipe (550 litres) of Esc. 98.307\$00 and Esc. 122.884\$00 for wines then sold at 400 and 500 reis the "Almude". The XVth century "almude" has been taken as measuring 16.8 litres.

(2) Duarte Nunes de Leão, *Descrição do Reino de Portugal*, 1610. Ramiro Mourão, *Os Vinhos Portugueses nos Antigos Mercados dos Países Baixos*, Anais IVP, 1940.

(3) *Geographia d'entre Douro e Minho e Tras-os-Montes*. Collection of unpublished mss. in the Municipal Library at Oporto.

(4) National Archives in the Torre do Tombo.

(5) *Beira Douro* – Eng. Agr. Pine Manique.

(6) Guerra Tenreiro, *Esboço para a sua História Económica*, Anais IVP, 1942, Vol. I.

Rui Fernandes, op. cit., refers quaintly to "... the same (inhabitants) who man for man there will not be found any in the kingdom nor in Spain who have so many sons and daughters; and the daughters outnumber the sons, for nowhere else are to be found women who breed so often, nor who are so fertile, for in the said district there are women who bear three children from one pregnancy. There are many who have 10, 15, 18 children by one Husband.

(7) The commercial sale of the fortified wine which we today know as Port only became general in this form in the second quarter of the 19th century. Till then the great majority of wine for export was a dry one or one with small quantities of residual sugar, not noticeable on the palate, "but without the sweetness which cloyes or the harshness which displeases." (F.S. Rebelo da Fonseca, 1782). Its alcoholic strength was higher than that of present day table-wine since, from the 17th century onwards, it was usual to add small amounts of brandy at different stages of its maturation. See Guerra Tenreiro, *Evolução do Vinho do Porto*, Anais IVP, 1942, Vol. 2.

of low price. And the sweet-smelling wines and the costlier ones go by land to many noble houses and to the Court of Castille, and likewise some to the Court of Portugal; and there some years when much wine is sold here for 400 reis and for 500 the almude (1) for the old wine which is fragrant, and also much wine is often sold to Garda, to Vizeu, to Riba de Coa and to the beira..."

Wines were also sent overseas: "... every year great quantities are sent away by sea to East India, to Mina, Brazil, the Kingdom of Angola, and other parts of Guinea, and to all the isles pertaining to Portugal, and to Flanders and to other northern provinces" (2).

It may also be of interest to list the various types of grape which made up the vineyards of this area, some of which clothe the hillsides of the Douro to this day. We may mention the "bastardo, trincadente, agudelho, which is another form of trincadente, alvaro de Sousa, which in other places is known as malvasia, castelão, loureiro, verdelho preto, verdelho branco, donzelynho, terrantes, abelhal and burral, çamarinho tinto, many types of ferral, ceitão, mourisco, felgosão".

To end these notes, here is what João de Barros (3) had to say in 1548 about the neighbourhood of Vila Real:

"There are very good wines in these parts, principally those of the lands lying towards the Douro and at Ribas de Pinhao which is a river that runs into the Douro, from where the wine is taken to the City of Oporto". In confirmation of this claim we know that in 1582 the Quinta da Eira Vedra – now known as Eira Velha – produced 70 almudes of wine.

Endless references could be culled from the "Tombo do Concelho de Penaguião" and the "Tombo de prazo de Souto Covo" (4), and the "Tombo de Cannellas, Puyares e Perzegueda" (5), relating to the 16th and 17th centuries, all clearly showing the extent and density of the vineyards on either bank of the Douro. It was mainly due to the cultivation of the vine that from the middle of the 16th to the end of the 17th century the Douro region knew a period of definite progress. The increase in its population, as compared with the average for the country as a whole, is conclusive evidence of this (6). In 1675 we find Ribeiro de Macedo referring to wines as Oporto Wine, and in 1678 the city's Customs has records of wines exported over the bar of the Douro under the same heading (7).



1.2. THE PRE-POMBALINE ERA

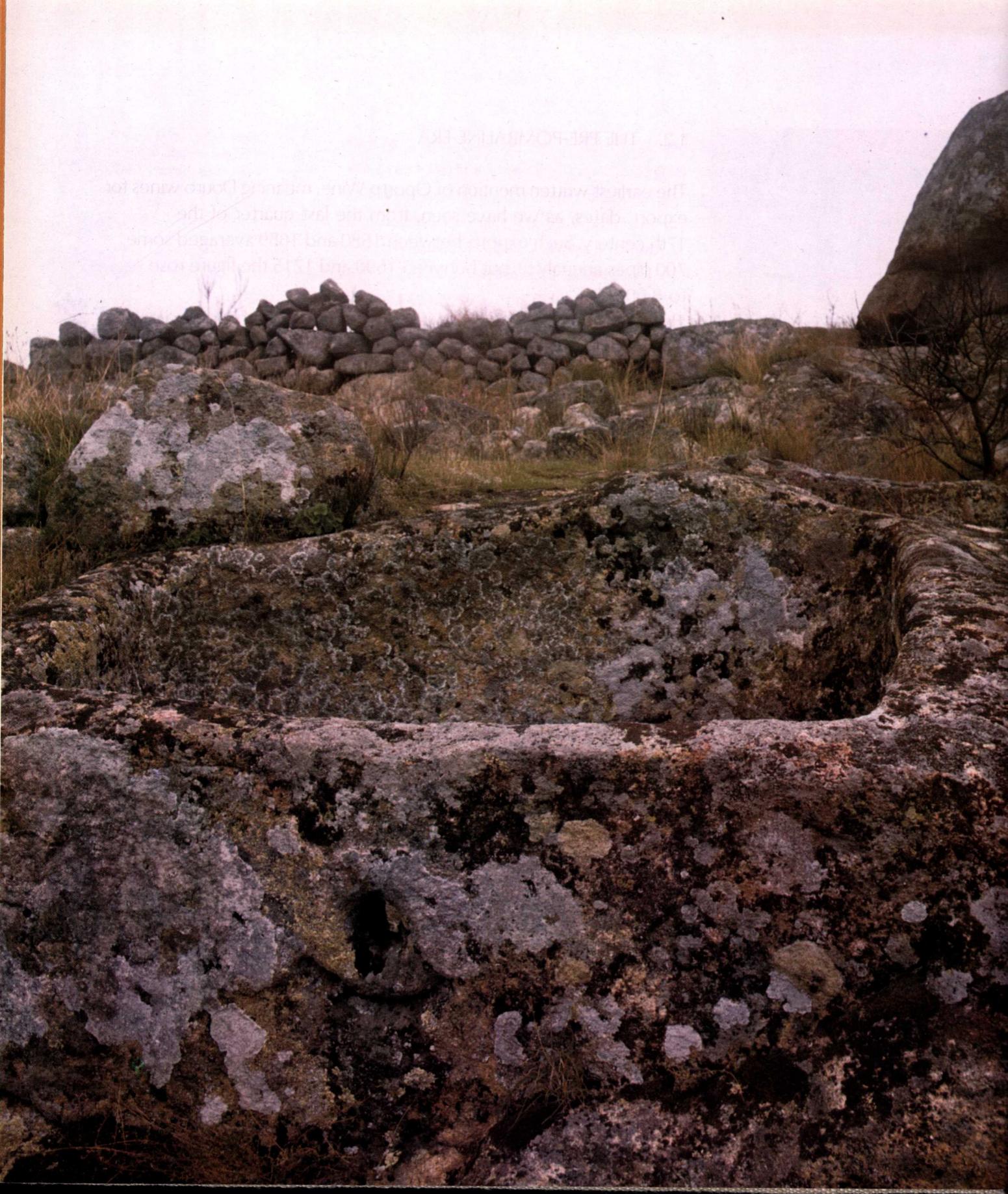
The earliest written mention of Oporto Wine, meaning Douro wines for export, dates, as we have seen, from the last quarter of the 17th century. Such exports between 1680 and 1689 averaged some 700 pipes annually (1), but between 1690 and 1715 the figure rose to 8 000 (2).

The wine had begun to make its name in England which remained its biggest market for over a century. The wines exported, the finest produced in the Region, maintained a trade based on quality. Demand was great, and plantations multiplied turning the Baixo Corgo into one vast vineyard. During the period 1716-1749 annual exports averaged around 19 000 pipes. And prices, for the period, were extremely high, topping 60 000 reis per pipe and sometimes more than 72 000 reis (3).

The demand was now greater than the supply. The vineyards not only scaled the hillsides but started to spill down into the hollows and lands liable to flooding; and farmers and shippers indulged in fraudulent practices. The former, wherever possible, cultivated the cool, low-lying lands or brought in unsuitable grapes from the hill-top vineyards. The merchants bought wines at low prices from other areas, which bore no resemblance to the Douro, and blended these with the wines of the chosen region.

By these means the quantity produced ended by being greatly in excess of the needs of the Trade; quality suffered; and malicious reports helped to hasten disrepute. The results were that:

- exports fell from 16 000 pipes during the years 1750 to 1753 to some 13 000 in the years 1754 to 1756.
- the drop in prices was even more disastrous: instead of 60 000 reis or more, quotations now ranged between 8 and 12 thousand reis per pipe (4).
- worst of all, the good name of Port was now discredited. The prices quoted no longer covered the costs of cultivation. This was largely given up, and in the villages misery pitched its tents. The thirst for large profits had ended by destroying a fertile source of wealth.



▲ A primitive lagar (treading tank).

1.3. THE AGE OF POMBAL

At this period the reigning monarch was Dom José I, and Sebastião José de Carvalho e Mello, later to become Marquis of Pombal, was Prime Minister.

It was clear that only a strongly disciplined organization could bring order out of the chaotic situation in which the Douro was languishing, and save the Trade and the region from ruin, since not only was the wine itself superfluous to the needs of the country but it was the produce of stony hillsides that were quite unsuited to other crops. To this end in 1755 the chief wine-growers of the Region met to discuss the problem and to draw up statutes for this much desired scheme ⁽¹⁾.

The result of their deliberations was submitted to the Court at the end of 1755 ^(?) and, after radical changes, led to the setting up of the Companhia Geral da Agricultura das Vinhas do Alto Douro (Royal Decree of 10 September, 1756) ⁽²⁾. Its Charter aimed at bolstering the good name of the wines by controlling production so that both Trade and the Growers would obtain reasonable reward for their labours, without price fluctuations either damaging demand on the one hand or leading farmers to abandon their vineyards on the other.

Of the 53 clauses that made up the Company's Diploma Organico, the most interesting are n.^{os} X, XIV, XXIX, XXX and XXXIII. These deal with its aims, capital structure, the demarcation of the Wine-growing region, and with the prices to be paid for the various types of wine produced within its boundaries.

X

"It being the principal aim of this Company to maintain along with the good name of the wines the cultivation of the vineyards, and at the same time to improve trade in this commodity by establishing a reasonable price for it, such as may produce a sufficient competence for the producers, and adequate profit for those who trade in it; avoiding on the one hand the excessive prices which ruin the

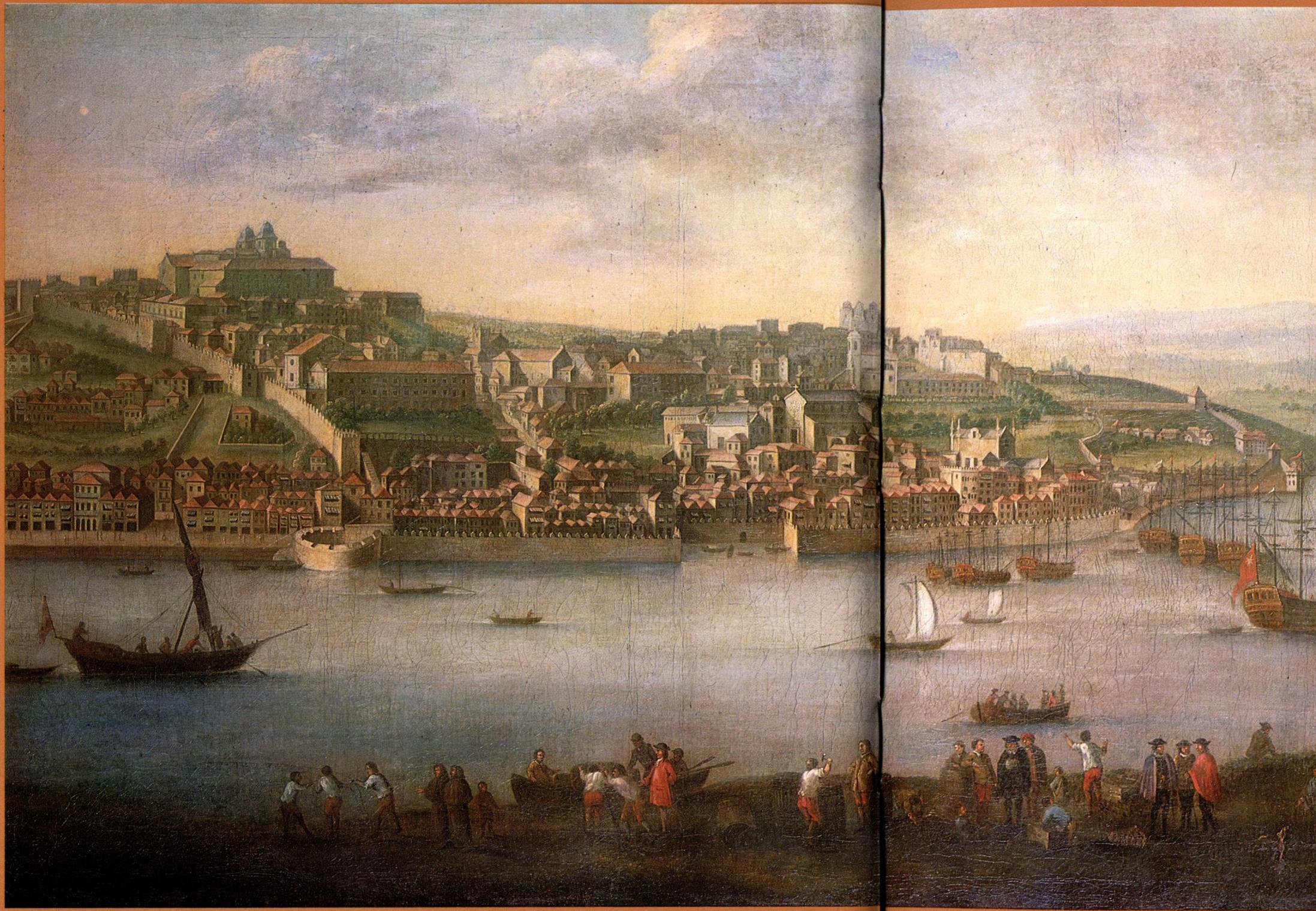
(1) The prime-movers in the setting-up of this organization were:

- Dr. Luis de Beleza Andrade, an important wine-grower in the Douro (Valdigem, Gouvães, Ventozelo) and the owner of winelodges in Vila Nova de Gaia.

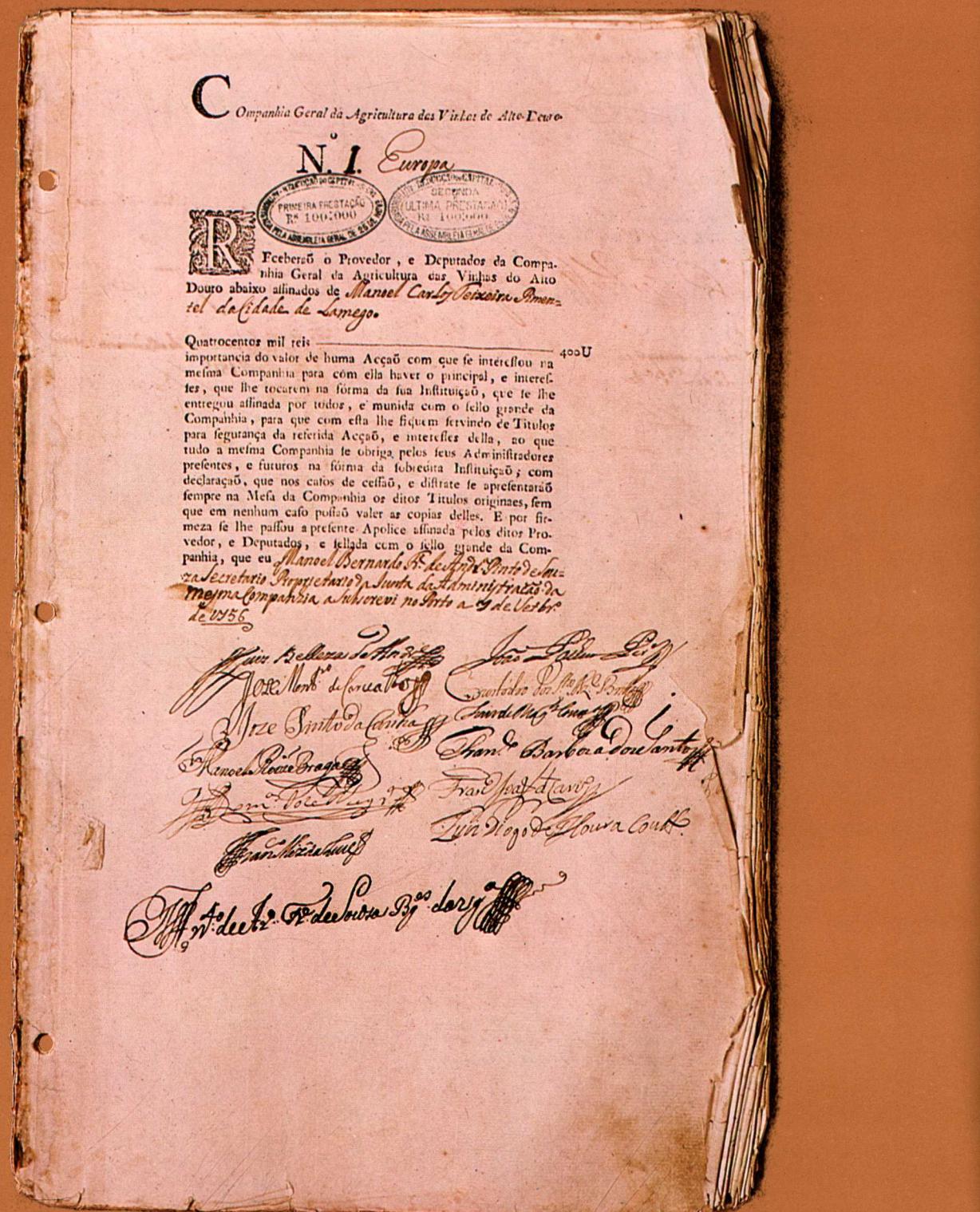
- Dr. Frei João de Mansilha, born in the Douro at S. Miguel de Lobrigos, an artful and intelligent Dominican friar. He was a friend of Dr. Beleza de Andrade who invited him to the first meeting of Douro farmers to discuss the creation of the Company. It was Mansilha who suggested the "demarcation of the serras". He was an important figure in the establishment of the concern (in which he took an interest for twenty years) owing to his contacts with the Court, especially with Sebastião José de Carvalho.

- D. Bartholomeu Pancorbo, a Spanish hidalgo, an exporter of wines, who had set up in Oporto in 1751 ^(?). With his international contacts, he also planned an international company for the export of wines to Europe, but this scheme came to nothing. Pancorbo's experience and contacts attracted the attention of his friend Beleza de Andrade who invited his collaboration; and the fact that he was on good terms with Monsignor Paulo de Carvalho, the Prime Minister's brother, did much to help the project forward. Vide Moreira da Fonseca, *A Ideação da Companhia Geral da Agricultura das Vinhas do Alto Douro*, Anais IVP, 1955-56.

(2) The General Company for the Cultivation of the Vineyards of the Upper Douro, to give the Organization its full title, was commonly known in the Trade simply as "The Company". As such it will be referred to here. (Translator's note).



This oil painting, dating from considerably before 1736, served as model for the well-known engravings of Oporto. Pipes for export are seen being handled in the foreground. On the right only one vessel is flying its ensign. Curiously enough this is of the Hanseatic republic of Stralsund, later to become part of Germany.



△ Share number one of the Company

product by making its consumption out of the question; and on the other preventing its falling into such decline that the Farmers can no longer depend on it to support the annual costs of their husbandry. And it being necessary to establish sufficient funds for such worthy aims, the capital of this Company shall be of one million, two hundred thousand cruzados in shares of four hundred thousand reis each (1), half of which may be held in reasonable and saleable wines in which the Shareholders may have an interest; the other half being in real money so that the Company be able to fulfil its obligations to support the needs both of grower and trader in the following manner".

XIV

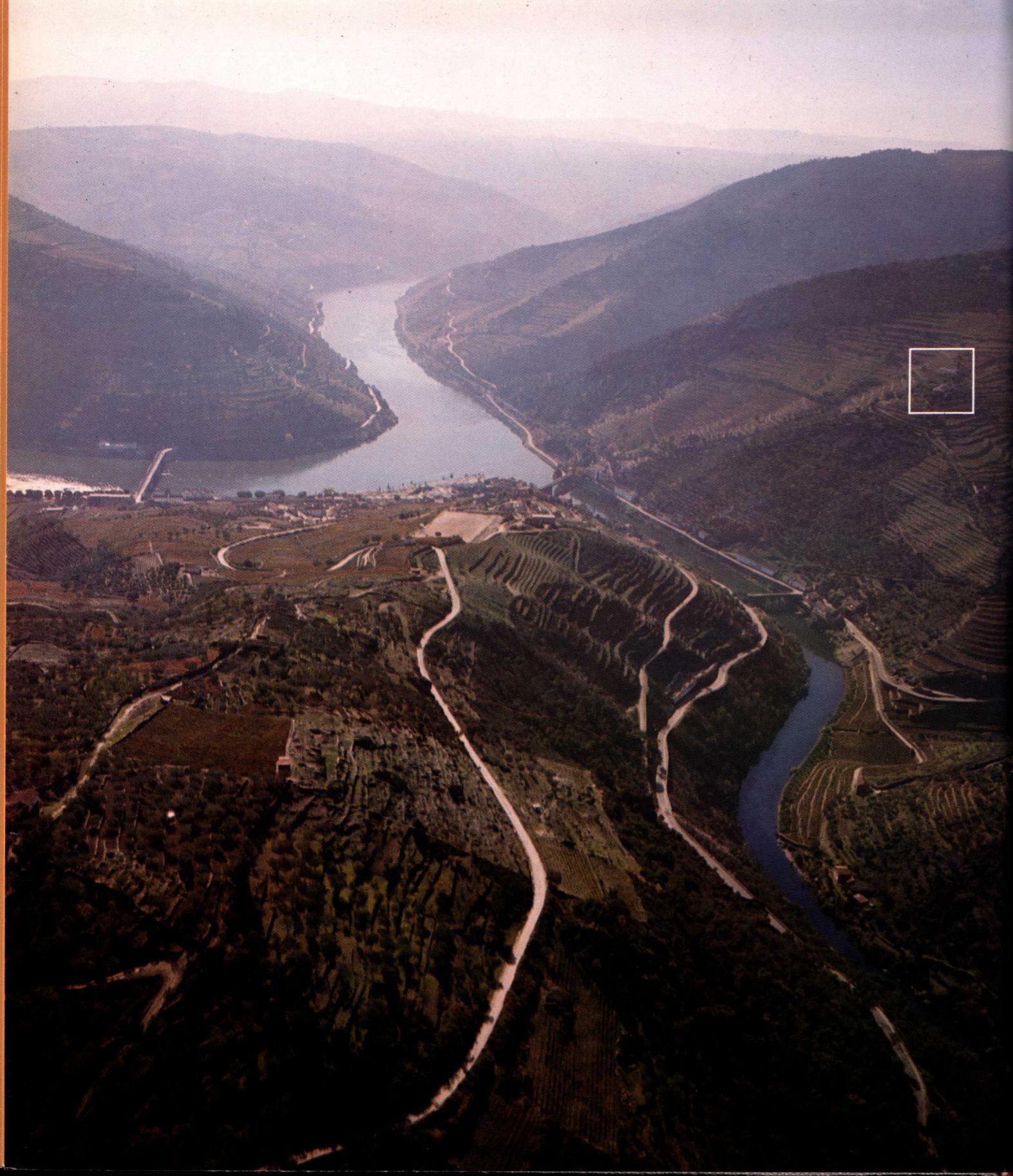
"So as to assist the taking up of shares in favour of the Growers of the wines of the Upper Douro the Company shall accept such wines as are of the finest quality and in their natural state of perfection, free from adulteration or blending which might impair them, at a price of twenty-five thousand reis for each pipe of common measure, and such as are of lesser quality, yet fit for lading, it shall accept on the same conditions at a price of twenty thousand reis per pipe (2). And it will continue to buy such wines at the same price in succeeding years whether there be an abundance or a shortage of the commodity, so that whereas in years of plenty the Company must pay the prices already established, likewise the Growers shall be obliged to sell them at these prices in years of dearth; in this manner the interest of either party is counterbalanced and the wine benefitted."

XXIX

"It being held entirely and absolutely needful for the purposes of shipment to America and Foreign Kingdoms to separate the wines from the slopes of the Upper Douro and surroundings from all other wines from areas which produce only such as are fit for local consumption, so that in this way the last-named may not damage

(1) J. Ferraro Vaz, op cit., The Company's capital of 1 200 000 cruzados is equivalent to Esc. 368 544 960\$00, and each share to Esc. 255 934\$00.

(2) Ibid., 25 000 and 20 000 reis correspond to Esc. 15 996\$00 and Esc. 12 797\$00 respectively.



¶ Quinta da Eira Velha (Eira Vedra).

the reputation which the former have won by their natural goodness; Your Majesty is advised that a Map and general register of both the northern and southern banks of the River Douro should be drawn up with the greatest despatch, and on this should be marked all land producing true export wines such as are fit to be shipped across the bar of this river; and that both large and small properties of this kind should each be particularised and should declare, either by common tally or an average based on its production over the preceding five years, how much each of the said properties habitually produces, so that their owners may neither sell wine without revealing to the Company what they have sold nor be allowed to sell any pipes either to the Company or to the Foreigners in excess of the number allotted to them on the above-mentioned register upon pain of having to pay ninefold the value of any such excess sales and of being forbidden thenceforth to sell wine outside the realm."

Thus it was established that a distinction should be made between wines destined for export to Foreign Lands (Factory or Port Wines) (1) and those which were only fit to be drunk locally (table-wines). The concept of a Demarcated Region is clearly established and for the first time in the history of wine-growing the idea of a survey is put forward.

XXX

"No wines from lands outside the aforementioned limits shall be brought into the territory unless accompanied by bills of lading signed by every member of the Town Councils of their places of origin, the same bills to mention their destination; the use to which the wine is to be put; the name of the Grower and of the property on which the grapes were picked; the names of those to whom they are consigned and the route by which they are to be transported; such bills in the form aforesaid shall be presented to the Delegates appointed by the Company at the localities in question in order that these may determine whether in fact the wine is used for the declared purpose. The above on pain of having all wine confiscated for

(1) "Factory" is a fairly loose term. It may be related to the technology of a product in the specialised sense of something "feito" or "made"; or it may be applied to the "House of the Factors", in the sense of commercial agents, and so by extension to the "Factories" in Flanders and to the English Factory House in Oporto, etc. (See J. Delaforce, "The Factory House at Oporto", 1979).



the benefit of the Company which is carried without bills of lading as heretofore described, or which is discovered to be off its lawful route or the public highways. And this in order that the bad wines be not blended with the good so as to increase the quantity to the detriment of the good name of the latter, and that of the Company and of the Foreigners who come to purchase them. And if it so happens that inferior wines are found to have been introduced into houses not licensed by the Councils to receive the same, with the Company's agreement these shall not only be confiscated but the persons in whose hands they are found shall be condemned to pay the Company three times the value of the said wines."

In this way, the entry of wines from outside the Demarcated Region was excluded with a view to keeping the tightest possible control on the purity and authenticity of the produce of the region itself. Violations were punished with a harshness which only the state of affairs at that period could justify.

XXXIII

"In order that the Wine-growers and the Buyers may conduct their affairs on a secure basis, and so that the producers shall not seek profits to the detriment of the merchants nor these, by attempting to force down the price of their purchases, be allowed to ruin the farmers; the Company will pay for any wine selected for shipment at the invariable price of twenty-five thousand reis and twenty thousand reis per pipe, according to whether they belong to one or other of the two qualities as defined in XIV above, and even if there should be a great shortage of the said quality wines, and a great demand for them, these prices shall never exceed thirty thousand reis for wines of the first quality and twenty-five thousand reis for those of the second quality.

Such wines, however, as are not fit for shipment but fit for internal consumption will be purchased by the said Company, and sold at fixed prices determined in the following manner. Wines from lands lying between Oporto and Arnellas will be purchased at four thousand reis ⁽¹⁾ per pipe and sold, the Company's accepting all responsibility

⁽¹⁾ v. J. Ferraro Vaz, op. cit.; 4 000 reis = Esc. 2 559\$00

for expenses involved, at the rate of ten reis per quartilho ⁽¹⁾ (5 decilitres).

Such as are produced from lands lying between Arnellas and Bayao will be bought at a rate of five thousand reis ⁽¹⁾ per pipe and sold on the above conditions at the rate of twelve reis per quartilho. Wines from the district of Anseide, which is to be demarcated in due course as explained above, will be bought at six thousand reis ⁽¹⁾ per pipe and sold in the same way at twelve and a half reis per quartilho.

Such as come from lands at Barqueiros, Mesão Frio, Barró and Penhajoya will be bought at eight thousand reis ⁽¹⁾ per pipe and sold in the same manner at fifteen reis the quartilho.

The other wines grown on the highlands of the Upper Douro which lie outside the area demarcated for export wines will be bought at a rate of twelve thousand reis ⁽¹⁾ per pipe and sold on the same terms at one vintem the quartilho; and the Company's Commissioner and its Officers undertake to supply these wines to the Taverns to be sold in the manner set out in XXVIII. This on the understanding that for each of the grades of wine aforementioned the Company will supply branded casks to distinguish the various qualities and prices; and that the Taverner who alters those, either by putting inferior wines into pipes of a superior grade, or by mixing them, shall on a first offence pay one hundred thousand reis, lose all the wines found to be adulterated to the benefit of his accuser, and be sentenced to six months in gaol; these penalties shall be doubled at a second offence; and at the third, apart from these, he shall be publicly flogged, and deported to the Kingdom of Angola.

And since there may be wines of such poor quality as to be fit only for distillation or for turning into vinegar, the Company will forthwith grant permits to the owners of such wines to allow their reduction to brandy or vinegar; and should it wish to avail itself of those two products it will purchase them by agreement between the parties."

Thus we find that prices were fixed, according to quality, all along the river valley from Oporto to the Douro Region proper, and at the same time heavy penalties were established for any contraventions. But, with prices ranging from 10 500 reis and less to 30 000 reis per pipe, no legislation, however severe, could have altogether done

⁽¹⁾ v. J. Ferraro Vaz, op. cit.: 5 000 reis = Esc. 3 199\$00; 6 000 reis = Esc. 3 839\$00; 8 000 reis = Esc. 5 119\$00; 12 000 reis = Esc. 7 678\$00.



"... granite landmarks ... were set up round "the limits of the Factory Zone."

away with the temptation to bring wines from outside into the demarcated region. The disparity in the prices, the mountainous nature of the country, the fact that many slopes were virtually uninhabited, and the boundless cupidity of human nature were to lead to many prosecutions for smuggling.

As the bounty of nature enabled the Douro Region to produce such fruity wines, it became necessary to protect these from any chance of falsification. To this end the policy of sustaining quality began with marking the boundaries which were to limit the Port-Wine Region. And following this line, it was agreed that a Register ("Tombo Geral das Duas Costas") should at once be made of both the north and the south banks of the River Douro. This was to include not only land which produced the high quality wines for export (vinhos de carregação, de embarque or de Feitoria) considered worthy of shipment across the bar of the Douro, but also a scaled classification of vineyards whose wines – table-wines – were priced at between 6 400 and 19 200 reis per pipe.

In the case of the Factory Zone each property was to be specified, and an estimate of production declared based on that of the last five vintages, so that the owners could not sell more pipes than those entered in the Index. This practice was later extended to cover table-wines as well. Any contravention of these rules would lead to the owners of the properties being permanently debarred from selling wines for export.

The idea of limitation coincided with the Company's foundation, and from the start it was considered an essential means of guaranteeing the authenticity and purity of Port. It put a brake on greed and was a real bar to the practice of fraud and adulteration; by limiting quantity it boosted quality, and this was to reach a rare degree of excellence.

It is right that this policy should be highlighted – adopted and carried through, as it was, in the Port Wine District over two hundred years ago, but elsewhere only winning general acceptance as a basic safeguard of quality in our own times.

To carry out this unprecedent task the powers of the day set up a Boundary Commission. This comprised judges of the Court of Appeal, deputies, tasters, counsellors, and a major of infantry acting as engineer, to whom was entrusted the task of mapping the two banks of the river, and who had a captain and an adjutant under his orders to help him.

Granite landmarks, some of them more than two metres in height, were set up at intervals round the limits of the Factory Zone to perpetuate the Commission's findings. Once this work was completed and had received royal approval, the Commissioners proceeded to draw up registers with the Municipal Councils; and based on these a map was prepared showing not only the Factory Zone but other areas producing table-wines as well.

Orders to start on this vital task were given in July 1757, the Company having only been founded in September of the previous year. In the course of their work the surveying team clambered for months up and down the Region, along "bad roads and through places where neither comfort nor sustenance was to be had at any price." Simply because they had taken in slightly more land than had been laid down in the "Instructions" on which their work was to be based, the Demarcation was set aside. Work started again in

1758, but the next year scores of landowners protested at what was being done and sought to have their vineyards included in the Factory Zone, such – so they claimed – were the merits of the wines produced by them.

The year 1760 was taken up with correspondence between the Company and the Court in attempts to clear up doubts raised by these claims. It was decreed that the petitions should be studied in the light of the standards agreed upon, and that thereafter the said Demarcation should be carried out and concluded "without further demur or rejoinder." After this the Boundary Commission went to work again and finished its task in May 1761. Its map was forwarded to Lisbon on 17 November of the same year, but has never been traced.

The Marquis of Pombal's personal intervention in the affairs of the Company dates from its foundation in 1756 to the death of King Jose in 1777. But the stimulus he had given to the "business" continued to be felt into the early years of the next century. And if the age of Pombal saw much legislation which was authoritarian, often violent and at times tyrannical, it is also true that under his aegis the foundations were laid of a policy which was to win great prestige for our "precious nectar".

The facts were:

- a) that prices which in the years immediately preceding the setting up of the Company had fallen to ruinous levels (8, 10 and 12 thousand *reis* per pipe), were fixed by this body at between 20 and 36 thousand *reis*, according to quality, annual production and the amount exported;
- b) that annual exports, which during the six years prior to the foundation of the Company had oscillated around 15 000 pipes, now reached 20 000 pipes;
- c) that Port gained a world-wide reputation.

In other words, during these years prices trebled, exports rose by 33%, and the name PORTO was made famous.

It is true that these achievements were dearly won. Such a policy could only be implemented and held together at the cost of human lives, severe suffering and losses of many kinds. Some malcontents

had to be brought to the gallows (riots of 1757); others found themselves uprooted to Africa and India; others again were sent to the royal galleys or to gaol. Properties were confiscated; warehouses and presses where beverage wines were mixed with those for the Factory were simply razed to the ground.

The battle for the purity and good name of Port was a hard one, and fraud or any other form backsliding was ruthlessly punished. Still, it must be granted that the achievements were impressive; the master plan on which the organisation was ideally based was sound; the course pursued a valid one; and the end results of great value.

1.4. AFTER POMBAL (1777-1810)

After the death of King Jose in 1777, the Marquis of Pombal withdrew from the Court to avoid being dismissed from his position as head of the Government. At the same time the Procurator Delegate of the Company, Padre Mestre Frei João de Mansilha, a controversial figure who had, however, shown surpassing zeal in setting up the organisation, "was at once locked up in the Monastery of São Domingos in Lisbon, and shortly afterwards sentenced to be banished for life to the Monastery of Pedrógão Grande." The penalties suffered by both men were the result of their policies bearing on the political and religious problems of the day and had nothing to do with their administration of the Company's affairs. But times had changed, and the removal of these two leading figures marked the beginning of the reversal. The hard line followed hitherto found no favour among the ministers of Queen Maria I, Dom Jose's daughter, and in the very first year of her reign (1777) some of the Company's privileges were annulled either by the Decree of 9 August of that year or by the Despatch of 22 September. In this way the Company lost its exclusive rights over the imports of wine in Brazil, and also its monopoly over the sale of wines in the taverns of the beverage area of the Upper Douro which it had itself set up and administered. The wine-growers and inhabitants of these districts were now free to sell their produce directly to the inn-keepers.



Local common flowers

- French lavender
- Rock Rose
- Honeysuckle

These measures undermined the iron discipline in force until then. They are partly explained by the growth of exports at this time. For while the average annual exports during the twenty years of Pombal's rule (1756-1776) were around 20 000 pipes, in 1777 they jumped to 27 000. From this we may suppose that table-wines were again finding their way into the factory zone and, as these abuses went unpunished, it is clear that the controls were being very much relaxed. The problem was to become even more acute after 1786.

The basis of Pombal's policy is shown to have been justified; and the benefits gained from it are made clear by export figures. Consider the following statistics:

The modest export figures of the Pombaline years rose during the following decade to an annual average of 24 500 pipes (1777-1786). But for 1787 the figure was over 34 000 pipes, and during the years 1788-1790 it averaged 41 000 pipes annually. Such quantities of wine can hardly have been legitimately come by. The expostulations made by the Governors of the Company to the Queen, the Royal Despatches published at the time, and the Resolutions made between 1787 and 1801, and which are referred to later, only serve to confirm the fact.

In the circumstances this slackening of discipline is understandable; and the Port Wine Trade boomed as never before, its members enjoying a remarkable prosperity. The structure, however, was to prove unequal to the demands of the future.

The French Revolution of 1789; the death struggle between France and England begun in 1793 and in which Portugal was involved; the wars with France and Spain (1801); the withdrawal of the Royal Family to Brazil in 1807; and the three French invasions (1807-1810) which brought so much destruction and misery to the country – all these were to leave deep scars on Portuguese life and were, naturally enough, to affect the Port trade. That these effects were not more marked was due to the fact that the English market was supplied by sea and that, after the battle of Trafalgar in 1805, Britain controlled the seas. Apart from this, although the popularity of Port in Britain was considerable, it must not be forgotten either that French wines were understandably banished from British boards at this period.

The age of Pombal		The age of Queen Mary		
Year	Pipes	Year	Pipes	
1756	12 211	1777	26 833	
1757	12 488	1778	22 890	
1758	17 327	1779	29 575	
1759	19 425	1780	27 716	
1760	21 290	1781	21 059	
1761	18 281	1782	25 923	
1762	27 085	United Kingdom financial exhaustion	1783	
1763	12 242	(American war)	1784	19 741
1764	17 186		1785	21 795
1765	19 534		1786	24 567
1766	21 272		1787	23 555
1767	20 242	Increase of the demarcated region	1788	34 017
1768	22 471		1789	36 608
1769	22 922		1790	39 645
1770	16 469		1791	46 808
1771	22 363		1792	45 390
1772	20 358		1793	55 123
1773	20 129		1794	31 113
1774	23 214		1795	52 654
1775	24 013		1796	53 392
1776	22 620		1797	38 584
			1798	28 757
			1799	64 402
			1800	56 699
			1801	55 896
			1802	21 208
				23 801



◀ "THE NELSON TOUCH"

Shortly before the Battle of Trafalgar, Lord Sidmouth was visited by Nelson. He afterwards related how the Admiral had dipped his finger in Port Wine and with it sketched his proposed plan of action on a table top. The table is still in the possession of the Addington family.

(From the painting by A. D. McCormick R.I.)

1.5. THE ADVENT OF LIBERALISM (1811-1834)

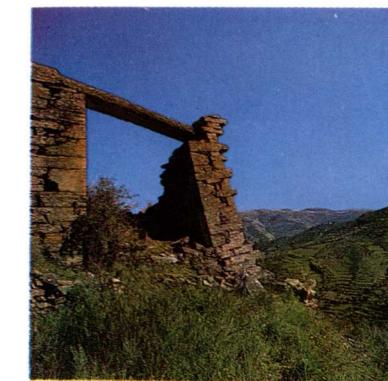
By 1811 the French armies had been chased out of Portugal, but the ideas spawned by the Revolution of 1789 remained behind and spread. The Campaigns in which our troops were involved and the aforementioned invasions were largely responsible for this expansion.

The age of strong, disciplined governments, like those of Cromwell, Colbert or Pombal, was long past. There was a crisis of authority as political dissensions multiplied and parties drifted to extremes. This was a time of Revolution, of uprisings, pronunciamentos, conspiracies and all manner of unrest. As a result it was not long before Portugal fell victim to that worst of all evils, civil war. King João VI, who had returned from Brazil in 1821, learned of that country's declaration of independence the following year, and was to recognise Brasil as a sovereign state independent of Portugal in 1825. In 1826 the King died, leaving the precarious question of the succession to be decided by force of arms. The bitter struggle between absolutists and liberals began, only ending with the capitulation of the former at Évora-Monte in 1834.

It is against this background that the development of the Port trade must be viewed. In 1810 the Prince Regent had signed a new treaty of commerce and carriage with England and this, it was hoped, would benefit Portuguese wines. However, exports slumped from an annual average of 40 000 pipes between 1777-1810 to 28 000 pipes for the period 1812-1834. This was largely the result of the country's tangled politics at this time, which the Regency had not foreseen. But it is also true that England's own economic troubles – exhausted as she was by the long struggle with France – had their part to play.

Criticism of the Company was renewed. The Trade, tired of being disciplined, was anxious to buy as and where it wished, and complained indignantly of the quality of the brandy supplied by the Company. This now, along with all its monopolies, found itself under heavy attack.

In short, what was being called for was the suppression of the Company and all its privileges. Free exports, it was claimed, would lead to the wines "going ahead both in quantity and quality". The bitterness



“The Dead Land” – The phylloxera ravaged the Douro vineyards.

came to a head during the siege of Oporto in 1832. The Company's lodges were set on fire and attacked, and hundreds of pipes of wine poured into the Douro. After the Convention of Évora-Monte in 1834, Queen Maria II came to the throne as constitutional monarch; the Company was dissolved and a period of free trade began.

So ended this era of state intervention in the wine-trade. It had lasted three quarters of a century (1756-1834). Of this some fifty years (1756-1811), as the result of the controls imposed on Growers and Merchants alike, may be claimed to have benefitted both the quality and the good name of Port.

1.6. FREE TRADE (1834-1837) – 1st PERIOD

The running-down of Port stocks in the importing countries, as a result of the interruptions in exports, led in 1834 – the year of the Company's eclipse – to a surge of orders and a rise in the price of wine. Both facts seemed to show the rightness of the new policy.

The new freedom from control, and the bonanza which accompanied it, led to indiscriminate new planting not only on good sites but on hilltops and in hollows, too; and vines of inferior qualities were often chosen because of their greater productiveness. Quantities of these wines, along with others brought into the Douro from outlying regions, found their way to Vila Nova de Gaia, and by the time they reached their destination abroad, the lack of quality was manifest. Business fell off; prices plummetted; and Port once more fell into disrepute.

1.7. THE RESTORATION OF THE COMPANY (1838-1865)

In the light of this over-production, and with the reputation of Port being called in question, there seemed but one remedy – the re-establishment of the Company without which, it was now said, the Douro could not survive. So this body was reorganized in



Encrusted stone at the end of the lever of a wine-press.



A wine-lodge abandoned after the phylloxera scourge.

1838, though its influence and the powers now granted to it were only a pale reflection of those it had once held. Robbed of authority and faced with the abuses then current, the Company's role was now simply that of a helpless overseer. Nor did the farmers find a market for their prolific and often discredited crops.

While in the 18th century production had been conditioned by the demands of markets both at home and abroad, the balance had now been upset both by the subsidiary demarcations carried out

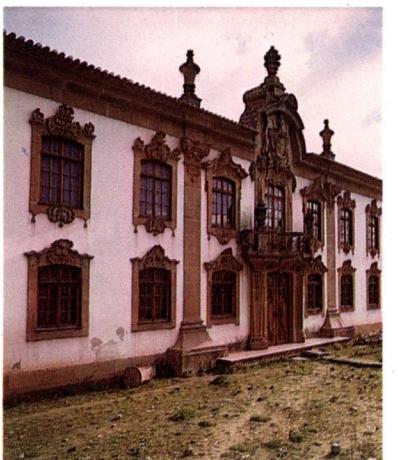
after 1788, and, even more, by the vast amount of new planting which had been indiscriminately allowed. There were no viable outlets for so much wine, and the problem seemed insoluble. Meanwhile, however, in 1851 and the succeeding seasons a large part of the vineyards of the region were attacked by a new disease: the oidium. The grapes withered on the branches and production was cut by more than half. In this way nature solved the question of overabundance, and prices rose sharply. But the reprieve was short-lived. The oidium was brought under control, and merchants, who had paid high prices for wine at the 1859 vintage, found themselves faced with heavy losses as prices slumped once more. In the same year the very men responsible for the state of affairs declared that the "ill repute of those Ports held as fit for export was such that these wines should all be distilled". This proved to be the death sentence for the Company. It was finally dissolved in 1865.

1.8. FREE TRADE (1865-1907) – 2nd PERIOD

Following the disappearance of the Company, exports climbed steadily up to the end of the 1880-89 decade, as the figures show:

1860/69	33 224 pipes
1870/79	52 303 pipes
1880/89	60 524 pipes
1890/99	54 476 pipes
1900/906	47 872 pipes

These supported the Company's critics. Its suppression seemed to have been justified. The abolition and the renewal of free trade policies were to coincide with the first outbreak of the phylloxera in 1868 at Gouvinhas. This



Casa do Cabo (18th century),
first post-Pombaline period.

was to devastate the vineyards and turn the Douro Region into an enclave of misery, a vast viticultural necropolis ⁽¹⁾. Hardship and hunger came with this terrible scourge, and families who had lived in plenty saw their children reduced to chipping stones on the roads. Exports, however, continued to rise, and in 1886, when the ravages of the phylloxera were at their most severe, these reached their peak: 75 000 pipes! Obviously the greater part of this wine did not come from the demarcated area, nor even from the Douro region, although it was all shipped under the name of Port. This reckless optimism was the result of a number of coincidental factors; the improvement in the British economy which led to the United Kingdom lowering its customs dues, and the devastation caused by the phylloxera throughout the rest of the wine-growing countries of Europe.

And, as though the state of chaos into which this plague had plunged the Douro were not enough, a new disease, mildew (1893), appeared to decimate the remaining vines. It was to take the region more than a quarter of a century to recover from this draining of its life's blood; and even to this day many hillsides remain barren of vines and have become known as "mortuaries".

After a long battle, and much trial and error, the practice of grafting onto "american vine stock" was begun (around 1884), together with the regular spraying of the vines with bordeaux mixture. And in this way both diseases were brought under control.

There remained a third, and no less important, problem for solution: how to limit the use of the name Port to wines of certain provenance.

Such designations of origin were widely disregarded, and this was to prove so detrimental that it was shortly to result in international legislation based on the defence of the rights of recognised wine-growing regions. But only after adopting such honest practice within her own borders, could Portugal proceed to defend her wines in international courts.

To this end, both at the Paris Convention of 1883 and at the Madrid Agreement of 1891, and again in Brussels in 1900, Portugal sought to defend a policy by which names of origin would be controlled. The kernel of her argument was that "no one has the right to take

⁽¹⁾ J. E. dos Santos *O Vinho do Porto*, Lisbon 1916.
E. H. Cockburn, *Port Wine and Oporto*, London 1949.

advantage of the good name won by another in international markets" ⁽¹⁾.

The whole of this period must be held to have been disastrous for Port. The phylloxera, mildew, and the abusive attempts to usurp the wine's good name did serious harm to the economy of the trade and consequently to that of the Douro region as well.

1.9. THE POLICY OF CONTROL (1907-1933)

To remedy this sad state of affairs, and so as to be able to protect the name "Port" abroad, it was found necessary to return to the methods of the 18th century, when our wine-growers had pioneered the policy of controlling areas of quality production.

In 1907 King Carlos' prime minister, João Franco, came to the defence of Port. He defined the term; gave it protection by law; set boundaries to the region in which it could be produced; and laid down that it might only be exported across the bar of the Douro. To implement these measures, he set up the Comissão de Viticultura da Região Duriense which, together with the Oporto Customs House, was given the executive and supervisory powers to carry them out. However, the limits set in 1907 were considered to be over generous and were revised in the following year. Since then, apart from minor alterations made in 1921, the boundaries of the Region have remained the same to this day.

The legislation of this period and the rules adopted were aimed at safeguarding the authenticity of the wines. This was followed, in 1921, by a definition of the characteristics of Port, and it was also laid down that the wines must be lodged in the country for a given period before they could be considered fit for export. In 1926 the entrepot at Gaia was established, thus legalizing an old tradition. This was a strictly limited area across the river from Oporto, indeed an extension of the wine-producing Region, in which alone the whole trade was now obliged to concentrate the lodges where its Ports would mature.

The measures taken were successful in protecting the name of

⁽¹⁾ Oliveira Martins quoted on p. 189 in "Aspectos da Protecção das Marcas de Origem Vinícolas e sua Evolução" by Lopes de Amorim, in *Anais do I.V.P.*, 1947.

Port. During this period the average annual export figures were:

1907-1909	44 332 pipes
1910-1919	61 411 pipes
1920-1929	82 437 pipes
1930-1932	81 749 pipes

The years 1924 and 1925 were specially notable, exports reaching 106 000 and 111 000 pipes respectively ⁽¹⁾.

1.10. THE CORPORATIVE SYSTEM (FROM 1932)

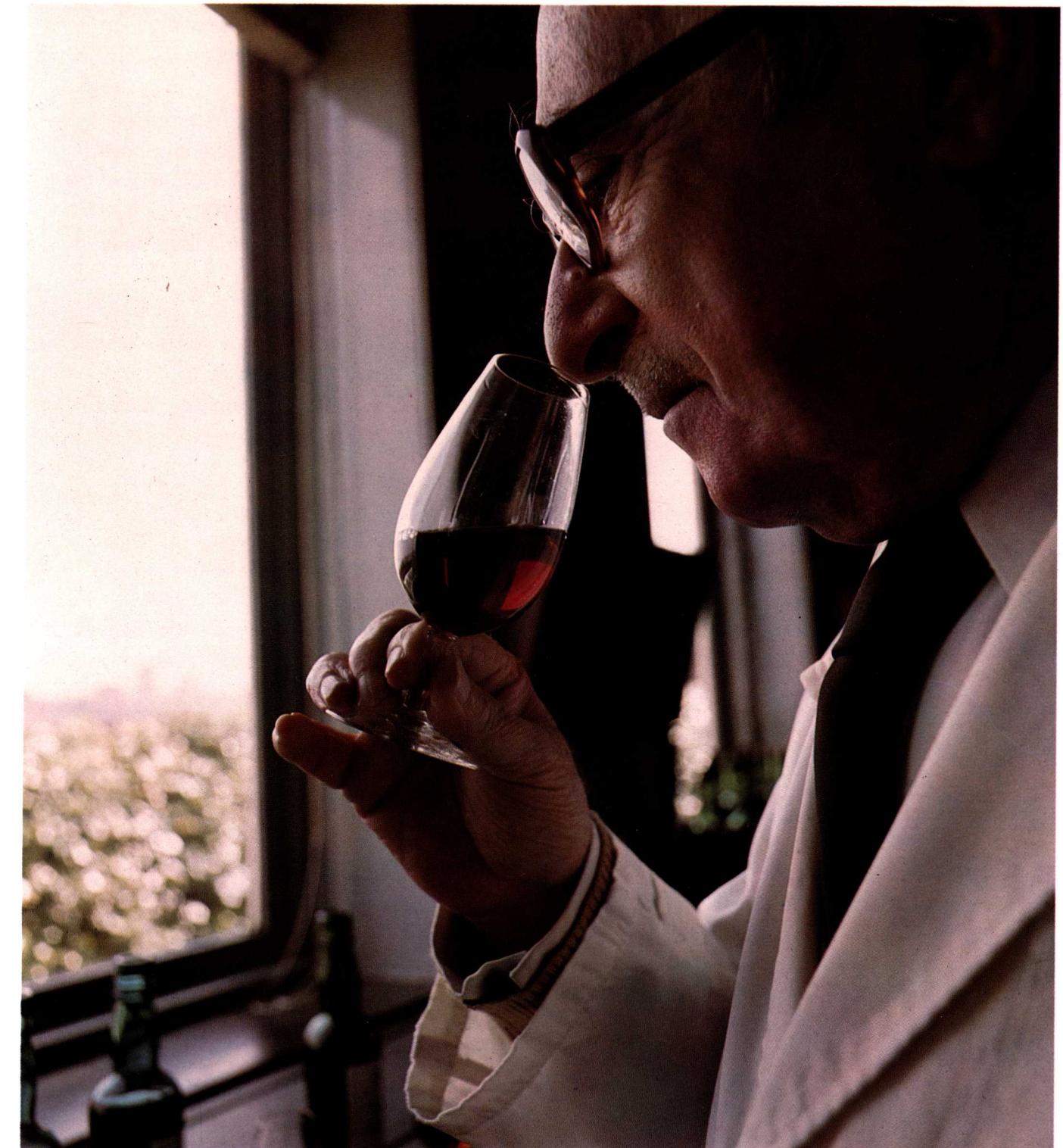
Although, as has been seen, annual exports for the years 1930-32 reached the high average figure of 82 000 pipes, this was a period of hardship in the Douro.

Wines were often paid for on a long-term basis and at very low prices. In the conditions then prevailing quality was being neglected and the amount of wine being made as Port each year was greatly in excess of market demands. This surplus caused prices to drop.

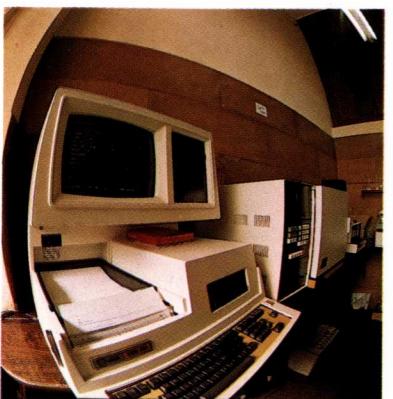
As a result quality was being scanty, while the prices paid to the growers hardly covered the cost of cultivation.

The Corporative System, which started to be introduced as the Law of the Land in 1926, now introduced new legislation aimed at controlling the two branches of the Port trade – the production side and the trade side. In 1932 the wine-growers were organised into guilds which together made up the Federação dos Viticultores da Região do Douro, more commonly known as the Casa do Douro.

1933 saw the setting up of the Guild of Port Wine Shippers (Grémio dos Exportadores de Vinho do Porto). At the same time the Port Wine Institute (Instituto do Vinho do Porto) was formed to coordinate their activities. This was an official body, set above the specific interests of growers or shippers, its underlying purpose being to



(1) 115 076 pipes in 1980.



IVP Laboratories – Chromatography section.

watch over the economy and the interests of Port Wine. The Institute is organised in three departments, as follows: –

Division I (now known as the Direcção de Serviços Técnicos, or Technical Department). This carries out scientific and experimental work for the guidance and assistance of the shippers, and collaborates with the Second Division over any fiscal analyses which the latter may require.

Division II (now known as the Direcção dos Serviços de Fiscalização, or Supervisory Section) controls the Chamber of Wine-Tasters and the Consultative Committee. It also deals with Current Accounts, Guarantees of Origin, etc..

Division III (now known as the Direcção de Serviços Económicos, or Economic Department) carries out economic and statistical work; directs the overall publicity for Port; and watches over the legal side of measures taken against falsifications in foreign markets, etc..

Administration.

The Institute was formerly controlled by its General Council, presided over by the Director. Apart from members of the Board, the Council also included leading members of the Casa do Douro and the Port Wine Shippers Guild, Government delegates representing both growers and shippers, and the Director of the Oporto Custom House.

This body of 11 members weighed heavily in the solution of economic problems affecting Port Wine, and served as the main channel of communication between the Institute and the producers and shippers.

All problems of major importance were studied and debated by the

Council, and if, as occasionally happened, it could not reach an unanimous decision, the matter was referred for final solution to the Minister of Economy.

The General Council has now been dissolved and its place taken by a Consultative Council without powers of decision. This is composed of:

- A chairman representing the Ministry of Commerce and Tourism.
- A representative from the Board of the Port Wine Institute.
- A representative from the Casa do Douro.
- A representative of the Conselho Regional Agrário.
- A representative of the Association of Douro Farmers producers of Port Wine from Pinhão.
- A representative of the Union of Cooperative Wineries of the Demarcated Region.
- A representative of the nationalised Banks.
- Two representatives of the Board of the Association of Port Wine Shippers.
- A representative of the Shippers, elected by the General Assembly of their Association.

Mention must also be made of the Chamber of Wine-Tasters and of the Consultative Committee.

Port cannot be defined simply on the basis of chemical factors or its physio-chemical characteristics; its appeal to the senses has a significant part to play. So it is easy to understand the fundamental importance of tasting in the assessment of a wine. For this reason no Port either enters or leaves the Entrepôt at Gaia without being submitted to The Chamber of Tasters for its opinion, and its verdicts are strictly adhered to.

The Chamber is made up of specialists whose long experience and flair for the work make them most valuable, indeed indispensable members of the staff. They are officials of the Institute.

Over the Chamber is the Consultative Committee. It comprises three full members and two "stand-ins", all of whom are tasters from individual Port firms, chosen for their high reputation and expertise. They are selected from a list of six names submitted to the Board

of the Institute by the Shippers' Guild, and their appointments are confirmed by the Minister of Economy. They are called upon to give their expert opinion whenever needed, and their decisions allow of no further appeal.

Among its other functions the Committee rules on the right of wines submitted to it to use the cachet which guarantees their bona fides; it also judges wines submitted for classification as Vintage Ports, Ports with indication of age, etc.

The services given to Port Wine by this Organisation over the last 40-odd years have been of great value. Without going into detail, its most important functions may be listed here:

- a) Each year it fixes the amount of wine to be made as Port.
- b) It plans the disposal of excess production.
- c) It affords financial aid to both Growers and Shippers.
- d) It plans and keeps up to date the viticultural survey of the Region.
- e) It is responsible for the strict supervision which enables it to guarantee both provenance and quality.
- f) It maintains scientific research services which it seeks to make as widely used as possible.
- g) It gives technical help to both branches of the trade.
- h) It keeps a current account of stocks held by every grower (some 28 000) and by each of the 54 shippers (1979).
- i) It is responsible for the general publicity for Port and for the repression of fraudulent dealing in Port Wine.

The Second World War (1939-1945) had a profound effect on the whole economy of the Port trade, not least in the way in which it changed old habits and started new fashions in drinking. However, the export trade has continued to adapt itself to these shifts, and exports are now once more nearing pre-war figures.

Given that the production of the Region can fall to less than 3 000 litres of wine per hectare, and that the terrain makes cultivation exceptionally laborious, successful development is clearly only viable on a basis of high prices.

Figures for exports and internal consumption of Port over the last years have been as follows: -

1933-1939 (before World War II)	75 633 pipes
1940-1945 (the War years)	30 954 pipes
1946-1960	46 634 pipes
1961-1965	56 549 pipes
1966-1970	68 142 pipes
1971-1975	88 325 pipes
1976	88 635 pipes
1977	107 131 pipes
1978	111 719 pipes
1979	130 423 pipes
1980	132 311 pipes

From what has been written it is clear enough that to maintain the authenticity, the quality and the economic well-being of Port-Wine restraints are essential, though these must, of course, be adapted to circumstances and change with the times.

1.11. AFTER 1974

After 1974 the Corporative System was to be dismantled and replaced by a new structure which is in the process of being studied to be created and implemented.

THE DEMARCATED REGION

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II – THE DEMARCATED REGION



A wine-growing region of long-standing traditions, the result of natural constants allied to gradually developed methods of cultivation and techniques of production, should be capable of producing wines of distinctive character. And this has indeed proved to be so in the case of the Port Wine district.



2.1. PAST VARIATIONS OF THE BOUNDARIES

Towards the end of the 17th century, as the reputation of Port grew, demand for it intensified and outran production. As prices rose to artificial levels, both shippers and farmers resorted to dubious stratagems in an effort to meet the demand. As the result the wines, which had been growing so popular, fell into disrepute; exports declined and prices slumped calamitously.

To remedy this state of affairs, as has already been described, the Companhia Geral da Agricultura das Vinhas do Alto Douro, came into being in 1756. Its chief aim was to protect the quality of the wines, and its first positive measure was to be the demarcation of the wine-producing zone. Its implementation, together with the policy of fixed prices, the control of new planting, and the privileges or monopolies granted to the Company, resulted in an Organisation which, though its provisions were often harsh, was well equipped to control the Port Wine economy and give it some much needed stability.

In fact the Demarcated Zone now produced just enough Port to meet the export needs of the day; the fixed prices gave adequate compensation to both shippers and growers; and the production of Port and table-wine alike was kept steady by the Index of Production which had been drawn up and which prevented sales in excess of the amounts registered on it.

Furthermore, the privileges granted to the Company, such as:

DEMARCATION OF 1761

- the right to supply table-wines to the city of Oporto and its surroundings up to four leagues from the town, as well as to the region producing Port;
- the trade in wines, brandy and vinegar shipped from Oporto to the four Captaincies of Brazil (Rio de Janeiro, S. Paulo, Bahia and Pernambuco), made it easy to maintain the desired balance between production and market demands.

But the demarcation of the areas in which the different types of wine might be grown remained an essential base of the whole structure. It is interesting to note that these early demarcations were carried out in a spirit nearer to that of the modern register than to that of purely territorial demarcation which encloses not only land under vines but areas susceptible of development, as well as zones declared unfit for wine-growing and proscribed by law.

A map drawn up by the Port Wine Institute, together with a study in three volumes, describe the demarcations carried out between 1758 and 1761 under Pombal's aegis ⁽¹⁾. On this map the areas producing Factory wine (Port), sold at prices ranging from 30 to 36 thousand reis per pipe, are clearly shown. Prices for table-wines produced along the Douro from Oporto to the beginning of the Port district were similarly fixed and ranged from 3 500 to 19 200 reis.

Thanks to these measures the Port trade revived, rising from the chaotic state in which it found itself in the mid-18th century to a certain degree of prosperity. This was to become even more marked in the decades to follow.

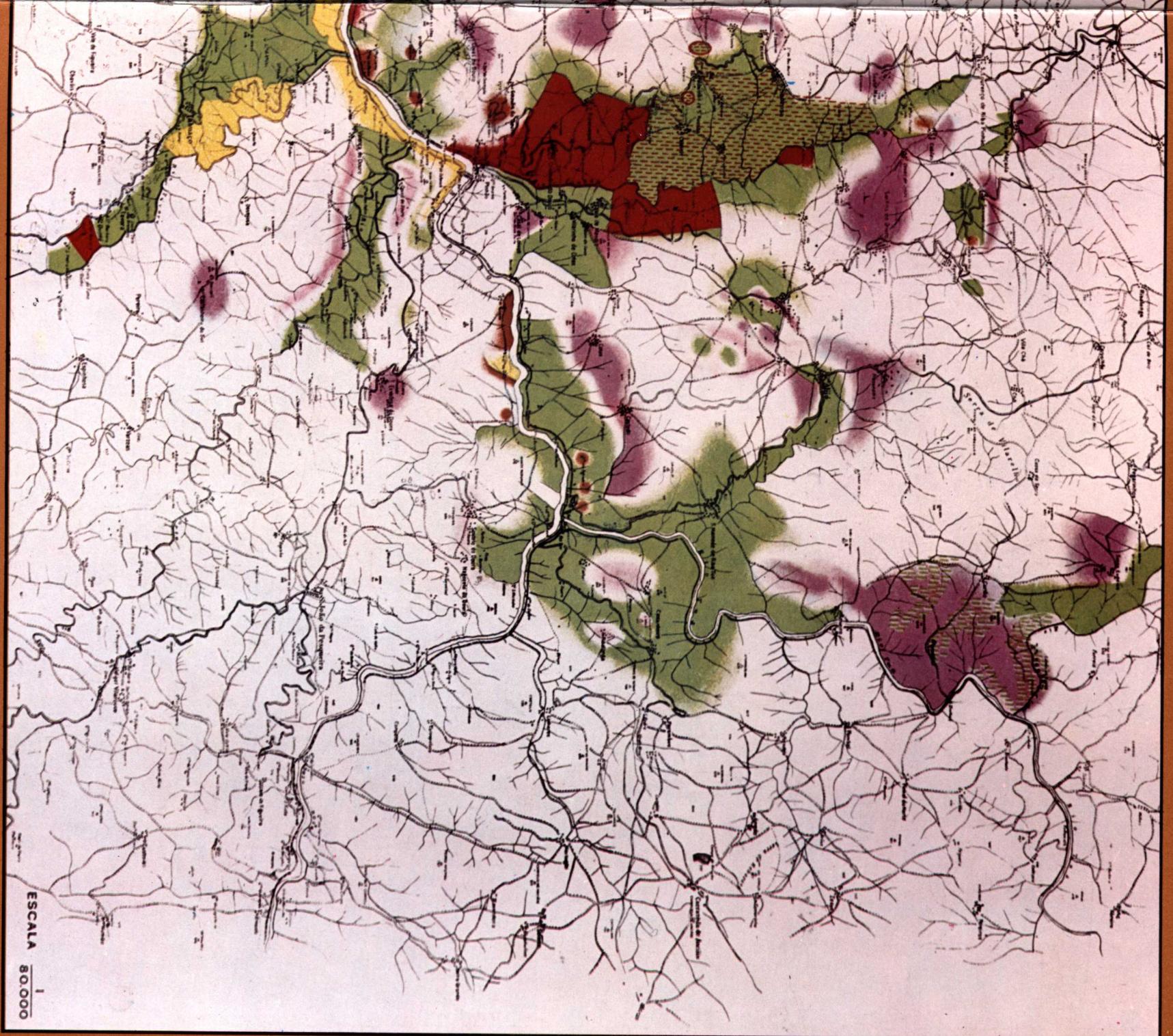
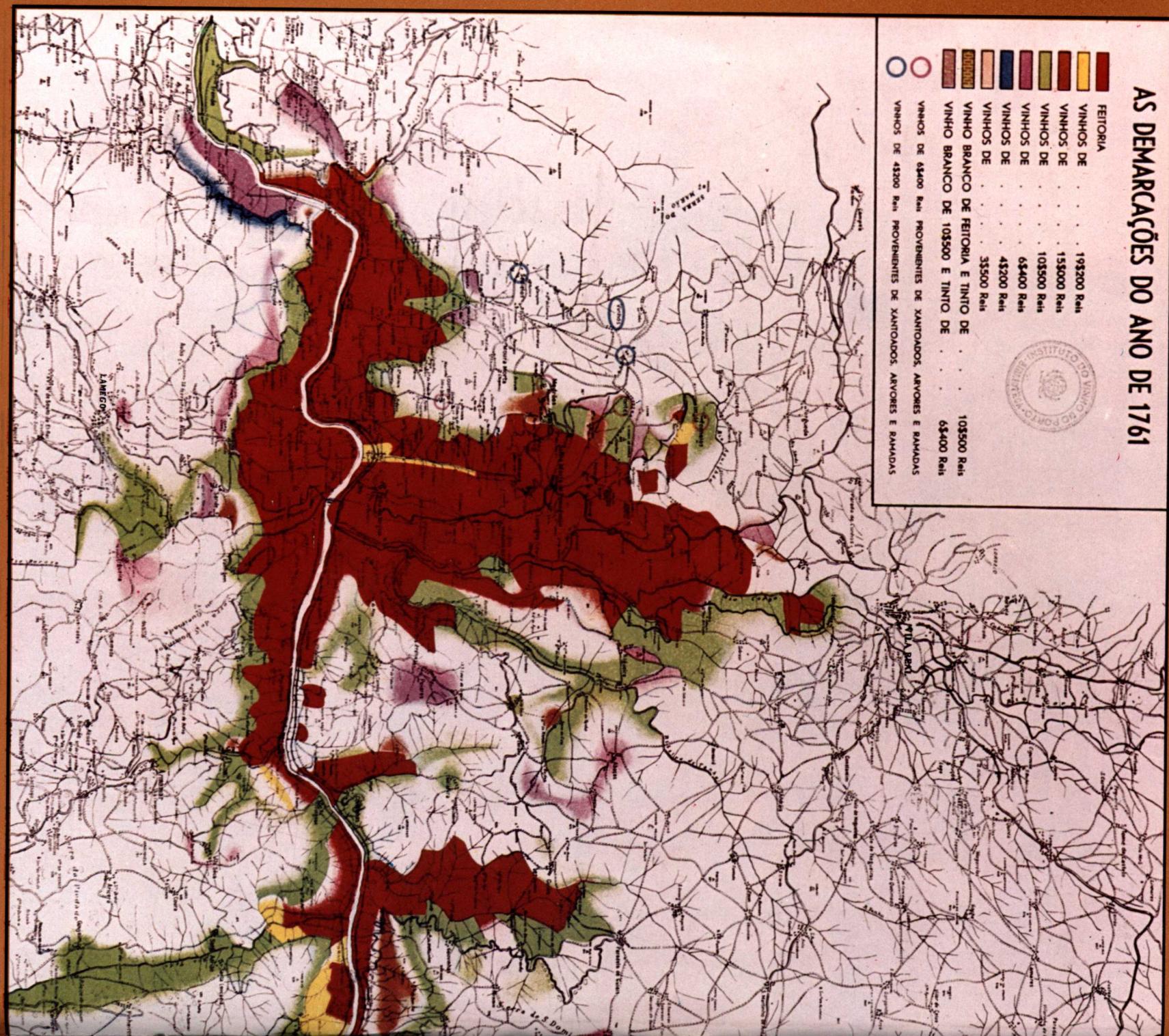
So we find that:

- a) exports in Pombal's days (1757-1776) showed an increase of some 33% in relation to those between 1750 and 1756.
- b) the decade of 1777-1786, which followed Pombal's dismissal, showed an increase of 17%.
- c) from 1786 onwards the increase in exports was spectacular. This was the result of the French Revolution and the subsequent almost constant wars between Britain and France right up to Waterloo in 1815 which interrupted the trade in wines between the two countries.

⁽¹⁾ As *demarcações Pombalinas no Douro Vinhateiro* by Engº A. Moreira da Fonseca in *Anais do I.V.P.*, 1949, 1950, 1951.

AS DEMARCAÇÕES DO ANO DE 1761

FEITORIA	193200 Reis
VINHOS DE	155000 Reis
VINHOS DE	105500 Reis
VINHOS DE	65400 Reis
VINHOS DE	45200 Reis
VINHOS DE	35500 Reis
VINHO BRANCO DE FEITORIA E TINTO DE	105500 Reis
VINHO BRANCO DE 105500 E TINTO DE	65400 Reis
VINHOS DE 65400 Reis PROVENIENTES DE XANTODOS, ANVORES E RAMADAS	
VINHOS DE 45200 Reis PROVENIENTES DE XANTODOS, ANVORES E RAMADAS	



Between 1777 and 1786, owing to exports having risen to an annual average of 24 000 pipes, there was considerable difficulty in finding enough wine to meet the demand. As a result, and also because discipline grew much laxer after Pombal's disappearance, the "abominable" introduction of table-wines into the Factory Zone increased.

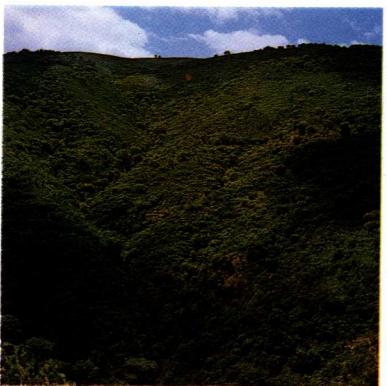
In 1787 exports jumped to 34 000 pipes and in the next year to 36 000. It was clear that new measures were called for, and we read (Royal Despatches of 6th March and 2nd May 1788): "As, thanks to the zeal and wise proceedings of the Administrative Council of the Company, experience has shown the production of the lands hitherto demarcated to be no longer sufficient for the needs of the valuable trade in the wines of the Upper Douro; Her Majesty has been pleased to instruct the said Council that, disregarding territorial considerations but still taking into account the quality of the wines produced by vineyards of good repute, such wines being considered fit for Embarkation, a sufficient number of these vineyards shall be classified so as to supply the number of pipes needed over and above those normally produced in the Demarcated Lands".

It will be seen, therefore, that the principle of classifying properties was maintained.

A Boundaries Commission, made up of high officials of the Company, then visited the Douro to carry out an extension of the Demarcation of 1758-1761. The latter, being the pioneer survey, thereafter became known as the Primordial Demarcation.

The new work was done with great circumspection, and it was clearly laid down that "the increase is being made on a provisional basis and for so long as experience shows it to be useful and in the public interest, and it will once more be considered as outside the demarcation as soon as it is seen to prejudice the trade and the exportation of the legitimate wines".

Further evidence of the difficulties caused by the shortage of export wines is found in the Despatch of 2nd May, 1788. In this the Queen, on the advice of the Company's Council, ordered the immediate inclusion in the Factory Zone of a number of properties "known to be of good repute and as fit for the production



Virgin hillsides.

of export wines as those already included under the new Demarcations."

Following on-the-spot inspections, the work of the Boundaries Commission, as authorised by the Despatch of 6th March, 1788, received the Royal assent.

On 6th September of that year the Company's Administrative Council received detailed reports not only on the properties and vineyards graded for the production of Port, but also on those producing table-wines for sale at 19 200 and 15 000 reis per pipe.

This Secondary Demarcation was also made to include the vineyards in the various parishes which produced table-wines for sale at 10 500 reis the pipe so that the Company could control the supplies of these, too.

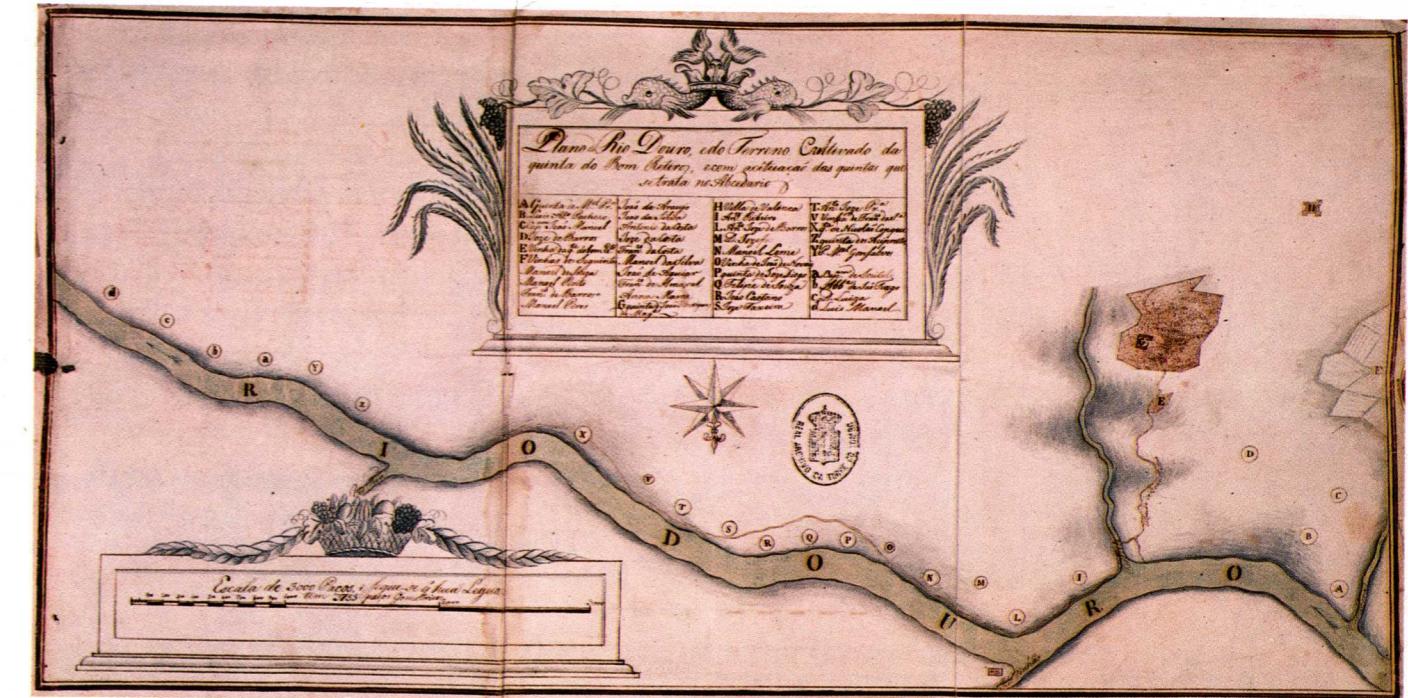
It requires a thorough knowledge of the demarcations in question fully to appreciate the detailed care with which the task was carried out. The work, which followed the pattern set by the Primordial Demarcation, is an important milestone in the history of the Douro wine district, and opened up new vistas for the Port trade. Yet it was all done two hundred years ago.

Despite these measures, however, the difficulties in meeting the demands of the market remained pressing.

An Edict of 17th November, 1788, made it known "to all Proprietors of Lands and Hillsides hitherto uncultivated among the vineyards included in the Subsidiary Demarcation and classified for the production of export wines in the places hereinafter listed: that Her Majesty, ever ready to help those of her subjects who most distinguish themselves in the Agriculture and Industry of the Country, has graciously consented to allow Red Wines from vines planted on uncultivated slopes between the aforementioned demarcations on the hillsides of the Rivers Douro, Sarmanha, Corgo, Pinhão and Baroza as far as the Cachão, to be paid for by the Company at a price of 15 000 reis per pipe". This was a far cry from the stable discipline of the Pombal years, and enlarged the horizons of the wine-growers of the Region.

In the Despatch of 13th January, 1789, we read:

"Her Majesty, deferring to the request of the Administrative Council of



Plan attached to a written plea from a farmer in 1789, requesting that his property should be included in the △ "Subsidiary Demarcation".

the Company, in view of this year's wines being insufficient to meet the demand, consents, exceptionally and for this year only, to the purchase of wine outside the demarcated district."

As time went by and exports continued to rise more and more sharply, the problem of the shortage of wine became crucial. In an effort to remedy or at least to palliate this, the Junta of the Company made a submission to the Queen on 11th May, 1790.

This pointed out that the Register of vineyards included in the Secondary Demarcation, which had been appended to the Despatch of 6th September, 1788, was not after all correct.

"Certain small vineyards" had not been included and their wines could not therefore be certified for export. Her Majesty was asked to consent to the inclusion of these in the new Demarcation.

Only nine days later (19th May, 1790) the new list was approved by the Queen. It included a number of properties well known in the Region and many hundreds of other vineyards – graded for export wines and for table-wines of 19 200, 15 000 and 10 500 reis – scattered throughout the Douro wine country.

IMPERANDO



D. MARIA I.,

Se demolio o famoso
Rocbedo que, fazendo aqui
um Cachão inacessivel,
impossibilitava a navegação
desde o principio dos
séculos: Durou a obra de
1780 a 1792

In fact what had been approved was not simply the inclusion of the few small vineyards which had been omitted "through an oversight", but another extensive Subsidiary Demarcation.

Despite this, a year later on 6th May 1791 members of the Junta returned to the charge and presented further proposals to the Queen. They pointed out that, as the extension of the Subsidiary Demarcation had increased Port production at the expense of that of table-wines, the supply of the latter was no longer sufficient to meet the Company's commitments under the privileges granted to it. They therefore proposed the inclusion of a large number of parishes as producers of table-wines.

The Queen again accepted these proposals in her Resolution of 11th October, 1791. The parishes listed were included in the Secondary Demarcation in view of the shortage of table-wine for local consumption and for the shipments to Brazil and the Baltic, "for which reason they have become part of the Subsidiary Demarcation for Export Wines."

After these numerous additions, production seems to have caught up with demand, and only two further small extensions of the Export zone are known to have been authorised in 1801 in the Royal Despatches of 17th May and 1st September of that year.

It is interesting to note that the last was accompanied by a Register which listed 1 109 vineyards belonging to 221 landowners.

A noteworthy event belongs to these final years of the 18th century. This was the clearing of the "Cachão da Valeira" which radically changed the whole economy of the Douro.

As has been seen, the Edict of 17th November, 1788, allowed the planting of vines on the uncultivated hillsides of various valleys "up to the Cachão".

At that time this marked the natural eastern limit of the Douro wine-district. It was part of the granite rock formation running across the Douro from the highlands around Carrazeda de Anciães to the peak of S. Salvador do Mundo near the town of S. João da Pesqueira. On reaching the river this granite wall acted as a dam to the waters of the Douro causing them to spill down in a swirling cataract ⁽¹⁾. Thus the Cachão marked the natural limit of navigability, barring the movement of people and goods by water beyond this point.

⁽¹⁾ "... a spot which had made the river impassable to navigation from the earliest times owing to the pool more than sixty hands deep existing there, surrounded by immense boulders among them three great slabs of rock, one of which taking up almost the entire width of the river shot down the water no less than five feet, and all of them covered to a depth of 5 to 6 hands." – in *Notícia aos Romeiros* to be seen at the Ermida do Senhor S. Salvador do Mundo.

"View of the Sítio do Cachão de S. Salvador da Pesqueira, seen from the Beira side, as it appeared in 1780..."

Painted by João Baptista Ribeiro in 1810.



For this reason, the country upstream, though in other respects identical to the lands below the Cachão, was noticeably underdeveloped economically.

Owing to the roughness of the country and the lack of roads in the area, the river was virtually the only way of penetrating the Douro and was a vital means of communication with the city of Oporto ⁽¹⁾. For this reason the wine district ended at Riba Longa and Linhares on the right bank of the river, and at Nagoselo on the left bank, all of them backed by granite boulders which built up the Cachão da Valeira. When towards the end of the 18th century (1780), the region came to enjoy a period of prosperity, the Company "took measures to remove this obstacle to navigation."

In 1793, after thirteen years of cruel labour, which at that period and in such country must have presented tremendous problems, the river was opened to traffic from its mouth near Oporto to Barca d'Alva on the Spanish frontier. In this way, we read, "was the rock cut, navigation unchained, and the happiness of the dwellers on the banks of the Douro and the Sabor and in the lovely lands of Villariça brought about."

Further work to improve the passage was found to be necessary and only in 1807 was the undertaking finally considered complete. As a result large agricultural properties now began to develop in the lands

⁽¹⁾ The railway only linked Oporto to Barca d'Alva after 1887.



"View of the Sítio do Cachão de S. Salvador da Pesqueira seen from the Trás-os-Montes side, as it remained in 1792, the year in which the work of demolition, begun in 1780, was stopped.

The captain José Maria Yola descended the Cachão in a boat, which had gone to load wheat above Freixo de espadacinta, and sailed it for 30 leagues with flags hoisted down to Oporto, showing in this way the triumph he had secured over Nature...".

Painted by João Baptista Ribeiro.



The left bank carries the plaque reproduced on page 60.



The Cachão da Valeira before the construction of the dam. This was completed in 1980.

upstream. While on these olive-and almond-groves vied for possession of the land, the vine became the dominant or, at least, the most profitable form of husbandry.

Only the longed-for and already foreseen suppression of the Company can explain the amounts invested in these properties. In fact the wines produced there were already being smuggled down river either by water or in panniers on mule-back, and finding their way into the Demarcated Region. Once there, they were "naturalised"; and

Baron Forrester – Painting by Roquemont (1844?).



since the quality was in no way inferior to that of the genuine Ports, it was not difficult to obtain the bills of lading necessary for their onward shipment to the lodges in Vila Nova de Gaia.

As confirmation of such breaches of discipline, the following quotation well reflects the conditions at this period:

"... An immense amount of planting has been carried out in the district (the Douro Winelands) since 1788 and has resulted in an excess of production, and though these recent plantations do not belong by Law to the export district, the continuity ... (word undecypherable) and confusion of these lands within the boundary line have made it impossible to exclude them, and in this way all the wines from the subsidiary region have in the last years been listed and traded as genuine."

In 1834, as has been said, the Company was suppressed, and freedom of trade and production were legalised. As a reaction to the years of control, there followed a period of licensed disorder. We need only note here that by 1801 the Factory Zone, that is the area producing Port, was certainly twice the size of that envisaged in 1761 when the original demarcation was undertaken under Pombal.

The requirements of foreign markets had made it unavoidable. And indeed the resources of the Region, then as now, made it perfectly practicable to meet the demand while maintaining the standards of quality.

Great efforts were made to maintain the balance between production and consumption, but times and ideas were changing. The strong arm of the Marquis of Pombal was no longer felt, and a liberal wind of change swept the country. Where Port was concerned, while exports declined, the market found itself flooded with wine from the many new vineyards which had been planted both above and below the Cachão.

In the circumstances it would have been logical to rescind the Subsidiary Demarcations of 1788 and 1801, but the authority and power to do so no longer existed. Throughout almost the whole of the first half of the 19th century the Douro's great problem was to find an outlet for its produce. And matters were not helped by the fact that often little attention was paid to the merits of the various vineyards or to the qualities of grapes used. This unsatisfactory state of affairs became even more chaotic after the suppression of the Company in 1834 and its final abolition in 1865.

This was the period of Joseph James Forrester, a British subject of Scottish birth who came to settle in Oporto in 1831. At the age of 22, he came out to work in the firm of his uncle, James Forrester, a Port shipper. He was to prove one of the most remarkable figures in the history of Port-Wine.

Forrester fought fearlessly for the purity and quality of the Douro wines at a time when this was once more being degraded to the status of a "stop-gap" beverage, as had happened earlier (1750-1754)⁽¹⁾, which was also one of the reasons for the setting up of the Companhia Geral de Agricultura do Alto Douro, the aim of which was to protect the integrity and commercial reputation of Port.

The owner of vineyards in the Douro, Forrester had a profound knowledge of the region, and left behind him an extensive and important bibliography⁽²⁾. The maps he made of the River Douro and of the Wine District (particularly the latter which even today remains a remarkable piece of cartography) are an eloquent testimony to his zeal. Apart from his many absorbing professional interests, Forrester was a water-colourist and draughtsman.

Notable among his works in this field are his portraits of leading figures of his day, not only business-men and wine-growers but of members of society, too.

The work of this exceptional man, who devoted his career to the Douro and the cause of Port-Wine, coupled with his great affection for Portugal won him the title of Baron, granted in 1855. He died, as he would no doubt have wished, on the River Douro, when the "barco Rabelo" in which he was travelling was wrecked passing through the Cachão da Valeira in May 1861.

However the problem of excess production, which had plagued the Douro in the decades prior to 1850, was itself to be attenuated by three natural scourges – the oidium, phylloxera and mildew – which attacked the vines in swift succession. And after these pests had been brought under control, João Franco in 1907 came to the rescue of PORT – defining and protecting the wine, and once again limiting the Region in which it could be made. His first demarcation was found to be over-generous and was corrected in 1908, since when, apart from very minor alterations in 1921, it has remained unchanged to this day.

⁽¹⁾ "They wanted the wine to go even beyond the limits with which nature had endowed it, and, when drunk, to be a liquid flame to the spirits, lighted dynamite when burnt, like writing-ink in colour, a Brazil in sweetness, and an India in aroma..." Reply of the Veteran Commissaries to the New Instructions of the Factory, September 1754.

⁽²⁾ *Barão de Forrester* in Catálogo da Exposição Comemorativa do Centenário da sua Morte, IVP, 1961.

DEMARCATED REGION OF THE DOURO (MUNICIPALITIES AND PARISHES)

2.2. THE PRESENT BOUNDARIES OF THE DEMARCATED REGION

The extent of the Demarcated Region of the Fortified Wines of the Douro, comprising some 250 000 hectares in all, is defined in Article 20 of Decree no. 7 934 of 10th December, 1921, in the following terms:

"The Region of the Fortified Wines of the Douro is made up of:

– In the district of Vila Real: the municipalities of Mesão Frio, Peso da Régua⁽¹⁾ and Santa Marta de Penaguião, and the parishes of Alijó, Amieiro, Carlão, Castedo, Casal Loivos, Cotas, Favaios, Pegarinhos, Sanfins do Douro, Santa Eugénia, S. Mamede de Riba Tua, Vale de Mendiz, Vilar de Maçada, Vilarinho de Cotas which come under the municipality of Alijó⁽²⁾; the parishes of Candedo, Murça and Noura, of the municipality of Murça; the parishes of Celeirós, Covas do Douro, Gouvães do Douro, Gouvinhas, Paradela de Guiães, Provezende, S. Cristóvam do Douro, Vilarinho de S. Romão, S. Martinho de Anta, Soto Maior, Paços and Sabrosa belonging to the municipality of Sabrosa; and the parishes of Albaças, Ermida, Folhadela, Guiães, Mateus, Nogueira, Relvas, Parada de Cunhos, S. Pedro and S. Dinis de Vila Real of the municipality of Vila Real.

– In the district of Bragança: the parishes of Vilarelhos in the municipality of Alfândega da Fé; the parishes of Carrazeda, Castanheiro, Riba Longa, Linhares, Beira Grande, Sancho de Anciães, Parambos, Pereiros, Pinhal do Norte, Pinhal do Douro, Pombal, Lavandeira, Vilarinho da Castanheira belonging to the municipality of Carrazeda de Anciães; the parishes of Ligares, Poiares, Mazouco and Freixo de Espada à Cinta of the municipality of Freixo de Espada à Cinta; the parishes of Acoreira, Adeganha, Cabeça Boa, Horta, Lousa, Peredo dos Castelhanos, Urros and Torre de Moncorvo

in the municipality of Torre de Moncorvo; the parishes of Assares, Lodões, Roios, Sampaio, Santa Comba de Vilariça, Vale Frechoso, Freixiel, Vilarinho das Azenhas, Seixo de Manhoses, the quintas da Peça and das Trigueiras and the property of Vimieiro in the parishes of Vilas Boas and Vila Flor, in the municipality of Vila Flor; and the properties belonging to D. Maria Angélica de Sousa Pinto

(1) By Decree n.º 23 331 of 11th December, 1933, in the municipality of Peso da Régua the parish of Vinhos was created out of part of the parish of Sediilos.

(2) By Decree n.º 23 057 of 26 September 1933, was created the parish of Pinhão in the municipality of Alijó.

Barroso and to the Sociedade Clemente Menéres situated respectively in the parishes of Frechas, Romeu, Avantos and Carvalhais in the municipality of Mirandela.

- In the district of Vizeu: the parishes of Armamar, Folgosa, Fontelo, Santo Adrião and Vila Seca in the municipality of Armamar⁽¹⁾; the parishes of Valdigem, Sande, Penajóia, Parada do Bispo, Cambres, Samodães, Ferreiros de Avões, Figueira and the quintas de Fontoura, do Prado and das Várzeas in the parish of Várzea de Abrunhais, Santa Maria de Almacave and Sé de Lamego in the municipality of Lamego; the parish of Casais de Barrô in the municipality of Resende; the parishes of Casais do Douro, Ervedosa do Douro, Vale de Figueira, Nagoselo do Douro, Sarzedinho, Soutelo do Douro, Castanheiro do Sul, Espinhosa, Paredes da Beira, Trevões, Valongo dos Azeites, Várzea de Trevões, Vilarouco and Pesqueira in the municipality of S. João da Pesqueira; and the parishes of Adorigo, Valença do Douro, Barcos, Granjinha, Desejosa, Távora, Pereiro, Sendim, Santa Leocádia and Tabuaço in the municipality of Tabuaço.
- In the district of Guarda: the whole of the municipality of Vila Nova de Foz Côa; the parish of Escalhão in the municipality of Figueira de Castelo Rodrigo; the parishes of Longroiva, Poço do Canto, Fonte Longa and Meda in the municipality of Meda.”

Of the whole of this area only some 30 000 hectares are at present under vines which gives a good idea of the room left for further expansion.

2.2.1. THE REGISTER⁽²⁾

(1) By Decree N.º 36 341 of 13th June, 1947, in the municipality of Armamar the parish of Aldeias was created out of part of Armamar. By Decree N.º 41 963 of 18th November, 1958, also in the municipality of Armamar the parish of Vacalar was created out of parts of the parishes of Armamar, Fontelo and Aldeias.

(2) Studies are presently being carried out with a view to revising and altering the Register.

The revision of and alterations to the “Cadastro” are at present under study.

Although the boundaries of the Region had thus been precisely laid down by 1921, it was only eleven years later that the Federation of the Wine-growers of the Douro, better known as the Casa do Douro, came into being. This body consists of all the wine-growers within the limits of the Region. It was then decided to make a Register of all vineyards in the area. The starting point for this ambitious

undertaking was a "Registration of Property", to be completed by the owner, in which the following particulars were given:

– owner's name	– frontages
– municipality	– situation
– parish	– number of vines
– address	– estimated production.

As was to be expected, in the early years of its existence the Federation came up against great problems. Organization, the recruitment of staff, both technical and administrative, and the acquisition of suitable premises for offices and storage were not the least of these. They were responsible for the delay in beginning the survey of vineyards which only got under way in 1937. It was completed eight years later.

The task was entrusted to teams of inspectors under the supervision of a qualified agronomist. Each group comprised an agriculturalist, a classifier of vines and a tally-clerk. The teams, which numbered 6 to 8, worked through the entire Region collecting the following data:

- a) whereabouts of the vineyards (municipality, parish and location).
- b) name and home address of the owner, tenant or acting partner.
- c) name of the previous owner.
- d) frontages.
- e) slopes and water-courses, if any.
- f) nature of the land.
- g) inclination of the terrain (in degrees).
- h) altitude (minimum, maximum and mean average).
 - i) spacing of vines – height of trellis – pergolas.
 - j) area under plantation, noting area available for further planting.
 - k) conditions of the vineyard.
 - l) particular cultural features.
- m) inter-planted crops.
- n) conditions in vineyard.
- o) varieties of vines cultivated.
- p) predominant varieties.
- q) percentage of failures.
- r) other pertinent particulars.



Oenanthe leucurus or Black Wheateater. This bird is found in the rocky reaches of the Alto Corgo and in the Upper Douro where the finest Port grapes are grown. W. C. Tait, the ornithologist, said that it might well be called the "Port Wine Bird" (The Birds of Portugal: 1924).

Each card on the index must be signed by the agricultural inspector, the classifier of the vines and the proprietor. The register is always kept up to date, and the requisite number of inspecting teams kept in being to ensure this.

This work is considered to be the most important of the tasks undertaken by the Federation. To give some idea of the scale, it is enough to say that in 1979 the Region boasted, in round figures, no less than 30 000 listed growers, (1) owning 84 000 properties planted with 185 000 000 vines.

Note is also made of the age of the vines (1 year old, 2 years, 3 years, between 4 and 25 years, and over 25 years old); the kind of soil in which the vines of various ages are growing, and whether this is schistous or granitic and more or less stony; whether the vines are trellised or grown on pergolas; the average production; and the number of vines grafted and ungrafted.

2.2.2. THE PRINCIPLE OF "BENEFICIO" (2) AND ITS DISTRIBUTION.

In theory any wine produced within the Demarcated Region is entitled to be made as Port. In fact, however, owing to the fluctuations of the market and to maintain the balance between supply and demand, the Port Wine Institute, through its General Council, (3) lays down the amount of wine which is to be "beneficiado" – in other words the quantity that may be made as Port in any one year.

This figure is arrived at after taking into account the stocks held by shippers and growers, the previous year's figures of exports and home consumption, and the trade's future prospects. Once the amount has been decided on, the Casa do Douro is informed so that it can make allocations to the farmers.

In the five years from 1975 to 1979 production of wine averaged 107 000 000 litres, but only 49 300 000 litres were made as Port. So it may be wondered how these allocations are arrived at.

For this purpose the vineyards of the Douro have been classified under a number of headings to each of which marks are allotted.

Based on information obtained by the inspecting teams, an index

(1) This includes owners and tenants.

(2) By "Beneficio" is understood the practice and technique of adding brandy to the wine to arrest fermentation, in other words the method by which Port-Wine is prepared.

(3) Today "Conselho Consultivo".

card is made out for each property.

These are then classified on the points system, and those with the higher "scores" – presumably, therefore, the producers of the higher grade wines – will obtain the larger allocations. Thus the distribution of the allowance becomes a safeguard of **QUALITY**.

The importance and, indeed, the originality of the system merit attention. Together with the Register itself, the allowance and its allocation are the keystones which sustain the organisation of the whole region; and, varying the metaphor, they are both the point of departure and the fulcrum of **QUALITY** production. It may be well, therefore, to look more closely at the way in which the marks are allotted under the various headings. These are listed in order of importance.

2.2.2.1. ALTITUDE

This is an important factor and deserves close attention. Within limits, the way in which the Region is divided into sections, and these subdivided into sectors, may require adjustment on the grounds of altitude. It may also help to correct the shelter factor (2.2.2.12.), and generally speaking can be said strongly to affect climatic conditions. Marks vary between 150 plus points for vineyards situated at heights of up to 150 metres, and 650 minus points for those lying between 601 and 625 metres.

Vineyards situated between 625 and 650 metres lose 750 points, and any above 650 metres are penalised by the loss of 900 points.

2.2.2.2. PRODUCTIVENESS.

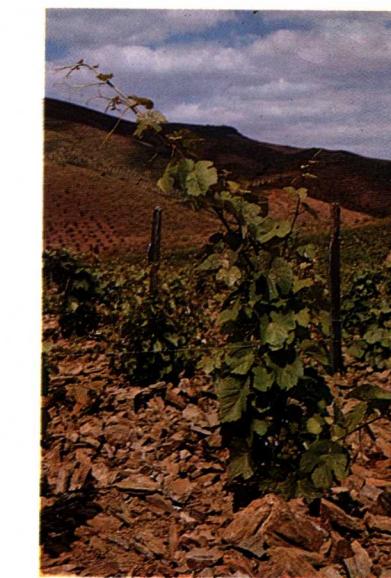
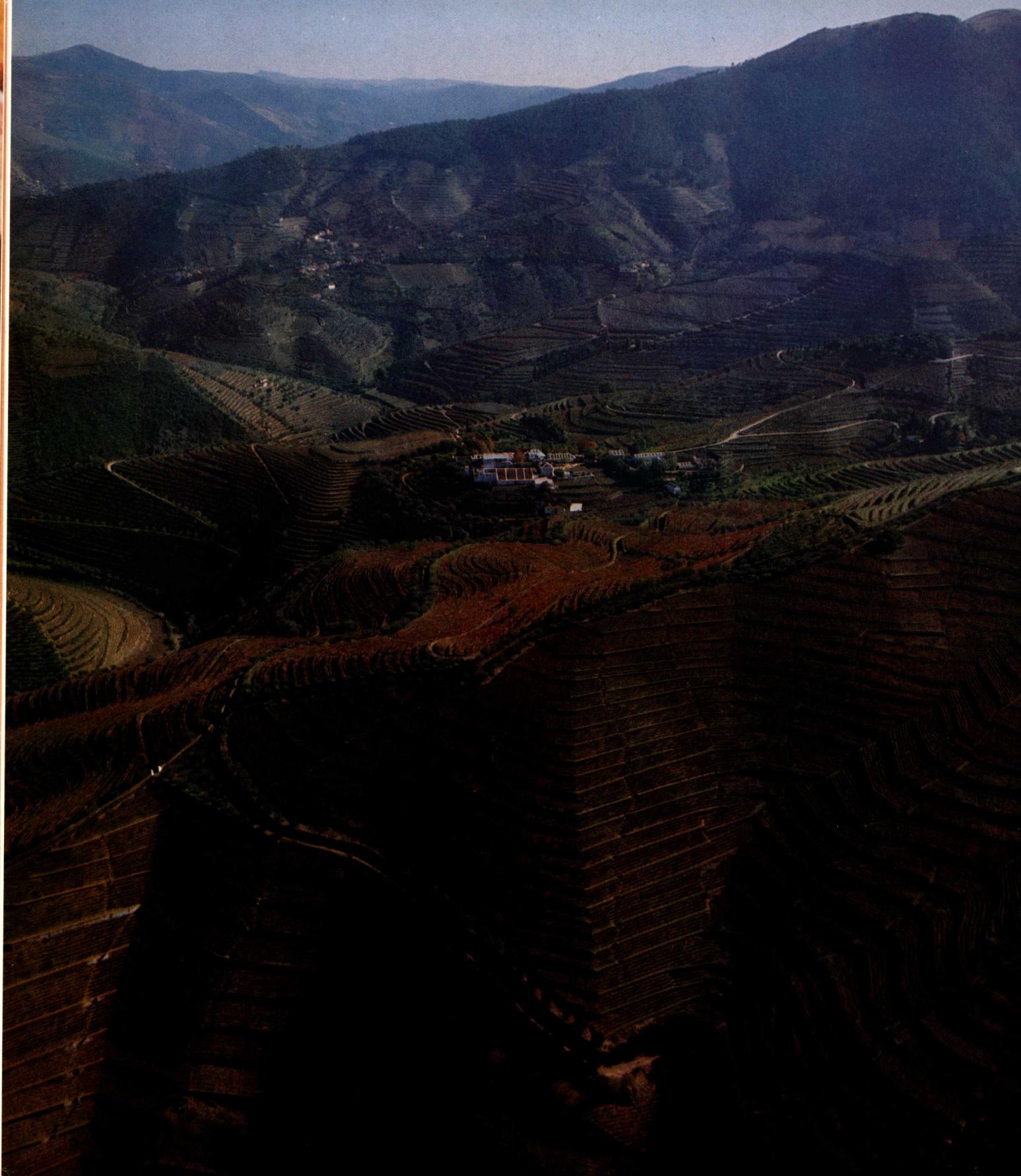
Various factors come into play here, but there is no doubt that, with rare exceptions, an increase in productiveness means a decrease in quality. So it is an important element in assessing the merits or otherwise of a vineyard.

Productiveness is naturally strongly affected by the climate, the soil and the

quality of the grapes in question, and it often serves to counterbalance marks given or subtracted by Situation. Its effects on quality have long been recognized, and in the French wine regions it is carefully recorded each year. In the Douro the points allotted for this factor do not change from vintage to vintage; they are, however, reviewed every five years in the light of production figures for each property which are noted annually on the back of the Index cards.

The count for this factor is set out below.

Average production in litres per 1000 vines	Plus	Minus
Up to 600	120	
From 600 to 700	90	
From 701 to 800	60	
From 801 to 900	30	
From 901 to 1000	0	
From 1001 to 1100		50
From 1101 to 1200		100
From 1201 to 1300		175
From 1301 to 1400		250
From 1401 to 1500		325
From 1501 to 1600		400
From 1601 to 1700		550
From 1701 to 1800		700
Above 1800		900



Schistous terrain.

“This man-made landscape must be among the most remarkable to be found in any countryside in the world.” Prof. Orlando Ribeiro in “Portugal, o Mediterraneo e o Atlantico”.

2.2.2.3. GEOLOGICAL NATURE OF THE LAND

This hardly calls for comment, since it is obvious that the kind of soil, together with the climate and the type of grape grown are primarily responsible for the quality of a wine.

Counts here vary between plus 100 for schistous lands and minus 150 for those merging from schist to granite. Granite soils are penalised 350 points, and fertile lowlands, subject to flooding, are graded minus 600.

2.2.2.4. LOCALITY

For this purpose the Region has been divided into five Sections, each subdivided into Sectors.

Section 1 – Comprises the parishes of Mouramorta, Sedielos, Vinhos, Louredo, and the hillsides around Medrões and Fontes which fall away to the valley of the River Sermanha. This Section is marked from plus 60 to 0.

Section 2 – This takes in the region from Barro to the small River Vilar (Fontelo) on the left bank of the Douro and that from Barqueiros to the River Corgo, on the right bank. This Section is divided into 27 Sectors, and marks range from a minimum of minus 50 to a maximum of 280 points.

Section 3 – On the left bank of the Douro, this takes in the hillsides between the Vilar and Tedo rivers, and, on the right bank, those between the River Corgo and River Ceira. There are 18 subdivisions in this Section, and marks vary between plus 50 and plus 460 points.

Section 4 – Takes in the belt flanked on the west by the Rivers Tedo and Ceira and stretches as far as the Saião. There are 38 Sectors in this Section. The marks range from minus 50 to plus 600 points.

Section 5 – Stretches from the Saião to Barca d’Alva. There are 15 Sectors, and marks run from plus 140 to plus 450 points.

The counts here are generally based on climatic considerations – rainfall and temperatures.

They tend to rise as one proceeds upstream to the limit of the Atlantic-Mediterranean zone (Section 4), and to fall away slightly once the Mediterranean zone is reached (Section 5).

2.2.2.5. THE TRAINING OF THE VINES.

The way in which the vines are trained – whether along wires in the form of low hedges or on pergolas – has a great influence on how the grapes ripen and on the quality of the resulting musts. In the first case the grapes are exposed to the direct rays of the sun and, by night, to heat reflected from the soil, neither condition applying to grapes grown high over a pergola. So it is to be expected that the former will produce wines of higher quality than the latter; and the respective counts are plus 100 and minus 500.

2.2.2.6. VARIETIES OF VINES.

The various types of grape grown in the Region, both white and red, are classified as Very Good, Good, Middling and Bad. (1)

The first rate a plus value of 150 points, and the second of 75 points. To the other categories no marks are given.

It sometimes happens that a variety of vine exists which does not appear in the foregoing list. In such cases penalties up to 300 points are applied.

2.2.2.7. INCLINATION OF THE LAND

There is no doubt that wines grown on hillsides are invariably superior to those produced in fields or flat lands. At the same time the hillsides are naturally less fertile than the plains. For this reason the slope of the terrain has to be taken into account when assessing a vineyard, and marks are given for this as follows:



Microvinification: Studies being carried out on the types of grape predominating in the Region.

(1) Legislation is expected, changing this classification.

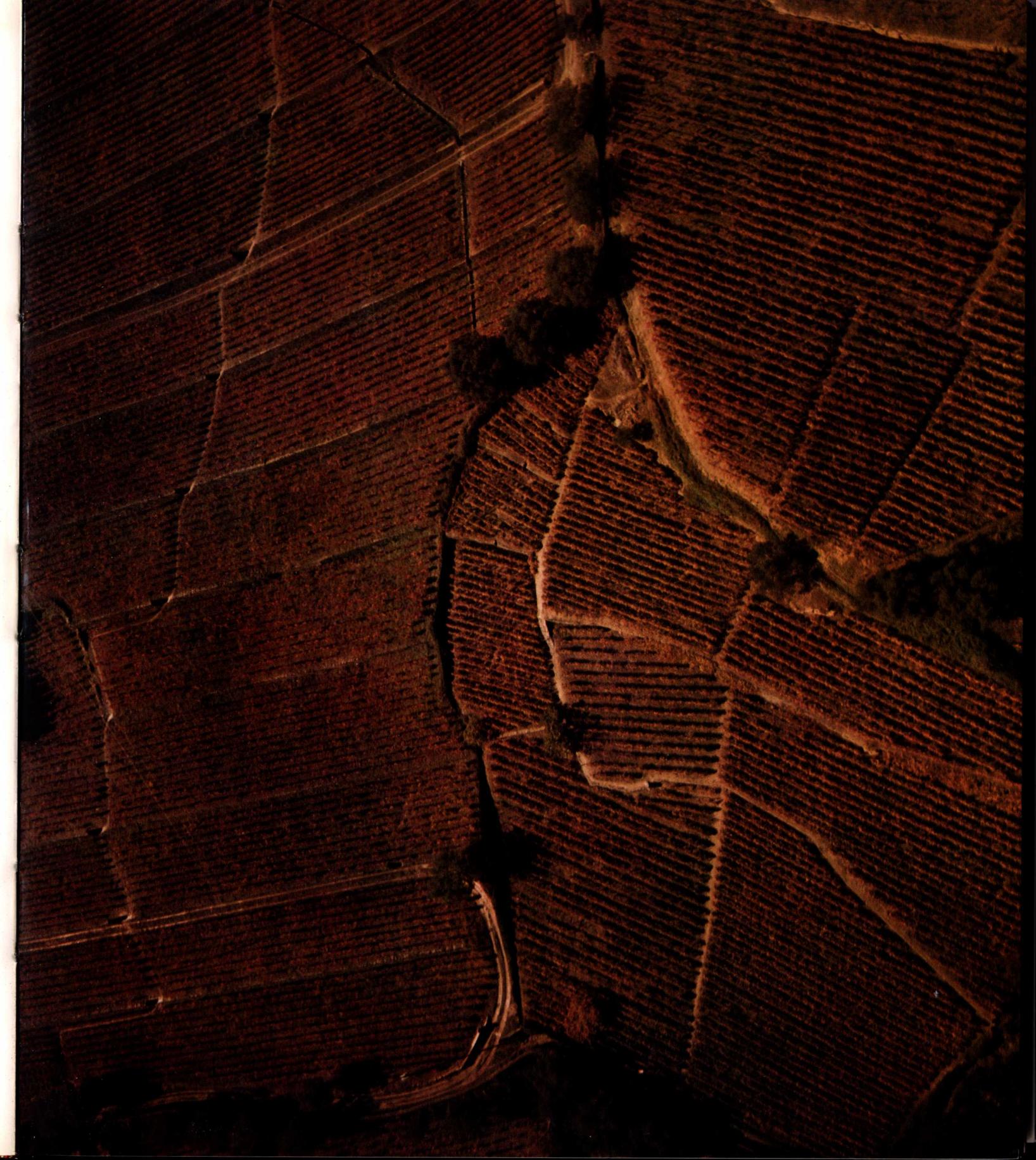
Degrees	Points	Degrees	Points	Degrees	Points
1	- 100	11	12	21	42
2	- 95	12	15	22	45
3	- 85	13	18	23	48
4	- 70	14	21	24	51
5	- 50	15	24	25	55
6	- 25	16	27	26	59
7	0	17	30	27	63
8	+ 3	18	33	28	67
9	+ 6	19	36	29	71
10	+ 9	20	39	30	76

2.2.2.8. ASPECT AND EXPOSURE TO SUNLIGHT

When speaking of the natural features of the Region, it is explained that the reason for the great variety of grapes grown in the Douro is the variation in the climate found between Barqueiros and Barca d'Alva. It was also these climatic differences which led to the area's being divided into Sections and Sectors.

The same consideration has made it necessary to take into account the aspect of a vineyard, the effects of which vary from one Section to another. For while in a temperate situation there will be considerable difference in the way the grapes mature on a south or north-facing slope, this is no longer true of the hotter and less humid lands. And although in general a southern aspect is to be preferred, it must also be remembered that in exceptionally hot years the northern slopes may ripen the fruit more perfectly.

For this reason, aspect cannot be considered a factor of prime importance.



Vineyards in the different Sections are assessed for Aspect according to the following table: –

Section	Exposition								
	SOUTH	SW	W	SE	E	NW	NE	NORTH	
1st.	10	5	– 5	– 5	– 15	– 15	– 25	– 30	
2nd.	60	55	45	45	25	30	15	10	
3rd.	90	80	70	70	75	50	35	30	
4th.	100	95	90	90	70	75	65	60	
5th.	90	80	70	70	50	55	45	40	

2.2.2.9. SPACING OF THE VINES.

The amount of space allotted to each vine has a decisive effect on the plant's growth and expansion. Though soil, climate and type of grape are conditioning factors, the lower the density of planting the greater the area on which the vine can feed. Again, within certain limits, increased expansion leads to great productiveness, and this in turn means a loss of quality. It is perfectly understandable, therefore, that this factor should be included in assessing a property on points.

The densities traditionally found in the Douro Region vary between 5 700 and 6 900 plants per hectare, which are considered to be the optimum for local ecological conditions. In these cases no marks are given. Vineyards planted with more than 6 900 roots per hectare are rated minus 50, and those with less than 5 700 roots per hectare score 50 points.

2.2.2.10 DEGREE OF STONINESS

When we come to look at the question of 'soil' in the Douro (3.1.1.), it will be found that this hardly existed as such. It has been made

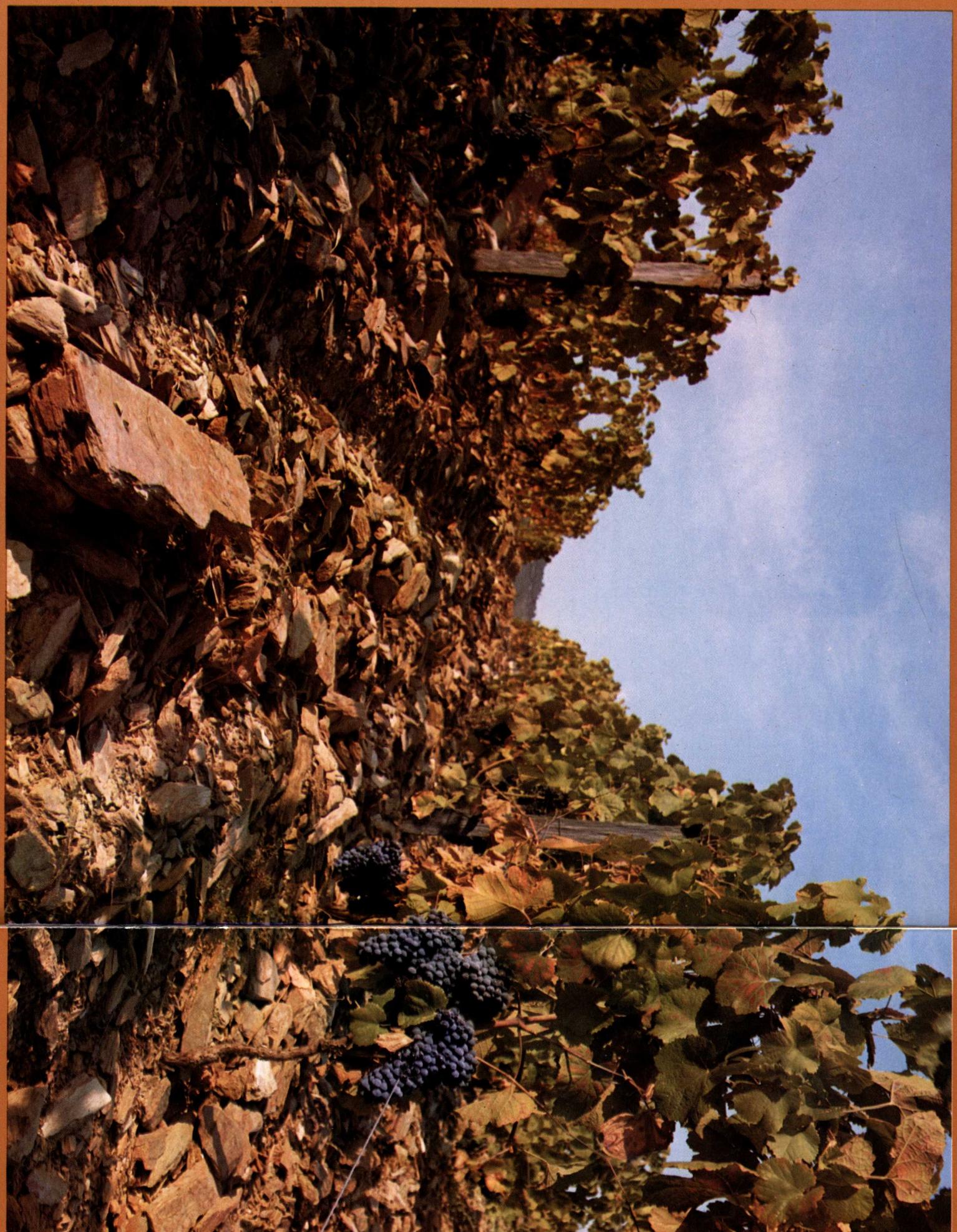
A plantation with a density of 6 000 plants per hectare.



up by repeated working and trenching. This being so, the land always contains a greater or lesser amount of stone. And the degree of stoniness has a marked influence on the supply of water to the vines, which is greater in the more stony soils. It also influences the temperature of the soil in depth. This is also greater in shaly soil which the heat can penetrate more easily. Finally it helps to control extremes of temperature, since stony lands that have absorbed more heat during the day give off this warmth little by little at night. So, under this heading, lands are classified as "very shaly", "averagely shaly" and "hardly or not at all shaly". The first group receives a bonus of 80 points; the second of 40 points; the third is unmarked.

2.2.2.11 AGE OF THE VINES

The vines of each property are listed according to age – the number of plants of 1, 2, 3, 4 and 5 years, those of between 5 and 25 years, and those of over 25 years being carefully recorded. This is done because young vines produce unequal wines, often of poor quality, whereas grapes from the older stock, or even very old roots, make for balanced wines.





¶ Vineyard over 50 years old. It is the same vineyard as reproduced page 81.

Thus, plants less than 5 years old receive no points, those between 5 and 25 years old are credited with a bonus of 30 points, and vines of more than 25 are credited with 60 points.

2.2.2.12. SHELTER

Shelter from wind, more particularly cold winds, has a considerable influence on quality. Vineyards are therefore classified as:

- a) Very sheltered
- b) Sheltered
- c) Hardly or not at all sheltered.

The corresponding marks are 60 points, 30 points and 0 points.

2.2.2.13. CORRELATION OF FACTORS

The following table shows the spread of the marks allotted under each of the foregoing headings.

The percentage of the total claimed by each section gives some idea of its relative importance.

FACTORS CONSIDERED	Points			
	Minimum	Maximum	Spread	%
Altitude	— 900	150	1 050	20,6
Productiveness	— 900	120	1 020	20
Nature of the Land	— 600	100	700	13,7
Locality	— 50	600	650	12,7
Methods of Training Vines	— 500	100	600	11,8
Qualities of grapes	— 300	150	450	8,8
Slope	— 100	100	200	3,9
Aspect	— 30	100	130	2,5
Density	— 50	50	100	1,9
Soil and Degree of Stoniness	0	80	80	1,6
Age of Vines	0	70	70	1,3
Shelter	0	60	60	1,2
Totals	3 430	1 680	5 110	100

The above figures show productiveness, altitude, locality, the nature of the land method of cultivation to be primary importance, with the varieties of grape grown and the slope of the vineyard as secondary considerations, and the shaliness of the soil, density of planting, shelter and the age of vines as tertiary factors. If, however, to the variety of grape are added related elements such as productiveness (allowing this 1/3rd of its total value, since the other 2/3rds must be linked with soil and climate), method of cultivation, the age of the vines and density of planting, the figures read somewhat differently:

VINES	
Varieties	8,8 %
Productiveness (1/3)	6,6 %
Method of cultivation	11,8 %
Age of Vines	1,3 %
Density of Planting	1,8 %
	30,4 %
LAND	
Nature of the Land	13,7 %
Inclination	3,9 %
Stoniness	1,6 %
Productiveness (1/3)	6,6 %
	25,8 %
CLIMATE	
Altitude	20,6 %
Locality	12,7 %
Productiveness (1/3)	6,6 %
Aspect	2,5 %
Shelter	1,2 %
	43,6 %
	99,8 %

From this reading we find that the nature of the land rates 25,8% of the total, the vines and allied elements 30,4%, and that the climatic factors bulk largest with 43,6%. This is understandable when it is borne in mind that it is the properties of a single region which are being classified, rather than wine-growing regions which are being compared. In the latter case the factors relating to the vines and the land would need to be evaluated on a different system.

But given that ground is, generally speaking, schistous, and that the varieties of grapes do not change, it is natural that the climatic factors should form the main basis for a classification of this sort. Once the marks have been allotted, the properties are grouped in classes, according to their totals:

- Class A Vineyards with a count of more than 1 200 points
- Class B Vineyards with a count of more than between 1 001 and 1 200 points
- Class C Vineyards with a count of more than between 801 and 1 000 points
- Class D Vineyards with a count of more than between 601 and 800 points
- Class E Vineyards with a count of more than between 401 and 600 points
- Class F Vineyards with a count of more than between 201 and 400 points

This method of classification of properties by points may be considered unique; it makes possible the control of the Demarcated Region according to circumstances and the economic state of the Port trade.

In this chapter it only remains to describe how the amount of wine fixed annually by the Port Wine Institute – on the advice of its Consultative Council – to be made into Port is parcelled out among the wine-growers.

In July of each year the Casa do Douro receives applications from the growers for the right to benefit under the allowance. These list the name of the petitioner, the municipality and parish to which each

property belongs, the names of the properties, the number of vines more than four years old, the estimated production, and the amount of wine for which the right of benefit is requested. The applications are then studied and checked against the Register which will show to which class each property belongs.

On this basis the coefficient of the allowance per thousand vines, depending on the class of the vineyard, can be calculated in the light of the amount authorised by the Institute. This task falls to the Casa do Douro. The coefficient naturally varies both according to the class of the vineyard, the total amount of the allowance for the year, and the prospects of a more or less abundant vintage.

To exemplify, the average "benefit" granted to each class of vineyard is set out below – based on an overall "benefit" of 80 000 pipes.

- Class A 600 litres per thousand vines
- Class B 600 litres per thousand vines
- Class C 550 litres per thousand vines
- Class D 470 litres per thousand vines
- Class E 400 litres per thousand vines

The method here described was entirely thought out by Eng. Moreira da Fonseca in 1947-48. Though it may fall short of complete perfection, and minor modifications have been made which have not, however, changed the essential structure, the scheme has been applied ever since with success. This is particularly remarkable in an entirely new method, given the many problems created by the very special characteristics of the Region and for which solutions had to be found.

THE WINE DISTRICT

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III – THE WINE DISTRICT



▲ Schist in vertical cleavage planes facilitates the infiltration of the rains and the penetration of the roots.

3.1. NATURAL FACTORS ⁽¹⁾

3.1.1. GEOLOGICAL

The greater part of the land in the Demarcated Region belongs to the geological formation known as the Pre Ordovician Schist-Greywacke Complex (Hispanian) (PC-Cb); this is most marked along the valley of the Douro itself and those of its tributaries.

The whole region is practically encircled by a formation of granite which penetrates it at certain spots, notably above the mouth of the river Tua, around Alijó and Carrazeda de Ansiães, and stretching along the right bank of the Douro to the mouth of the river Sabor.

Occasionally in parts of the Schist-Greywacke Complex ⁽²⁾ outcrops of granite are to be found, notably at Freixo de Numão, Seixo de Numão, and a third between Fontelo and Sande.

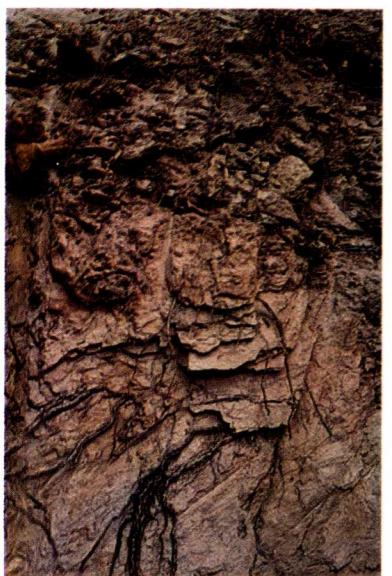
Apart from the predominant Schist-Greywacke Complex, other geological formations are found in the region, as may be seen by referring to the Geological Map of Portugal made to the scale of 1/1 000 000.

These are:

– Silurian (S) and Ordovician (O) – These are two large enclaves of this, one between Moncorvo and Mazouco, the second near Poiares in the municipality of Freixo-de-Espada-à-Cinta. Smaller patches are found north east of Vila Flor and along the flanks of the Marão range near Fontes and at Vilas Boas, Vale Frechoso, Lodões and Vilarelhos.

(1) The compilers would like to thank Professors A. A. Martins and Brito de Carvalho of the Instituto Universitário de Vila Real for their valuable contributions printed under the headings "Geology" and "Soils".

(2) In this complex, predominantly made up of schists and sandstone, one sometimes comes across insertions of calcareous crystals. These may be found surfacing at, for example, Eredosa do Douro, Covas do Douro and Alvações.



The roots penetrate between the scales of the schist.

- Undifferentiated Paleocene and Miocene (PgM) – near Longroiva, along the valley of the ribeira de Centieira and around Pocinho, Vilarica.

3.1.2. SOIL

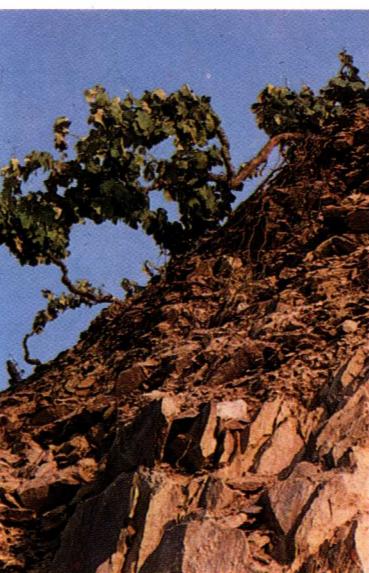
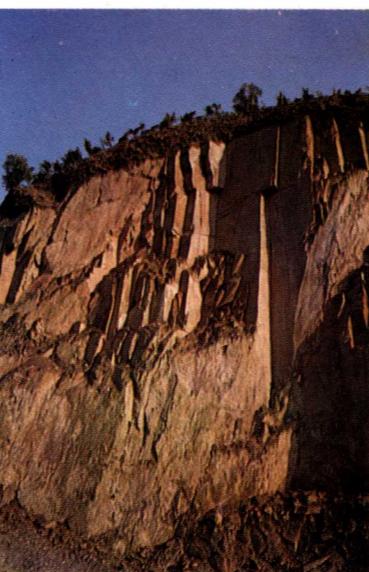
When we come to the soil of the region, we find that the anthropic, that is the human element has played a large part in its formation, by increasing the depth of soil, breaking up the rock, and bolstering it with terracing.

There are two main groups of soil in the Douro:

- That which has resulted from human labour when planting the vines; this covers the greater part of the Demarcated Region. The profile of such soil is purely man-made; its depth will depend on that of the excavation, varying between 1.10 and 1.30 m., and on the siting of the terrace. Within these limits two layers may be distinguished – the top one of some 25 cms. resulting from the normal tilling of the plants, the lower layer reaching down to bed-rock. Both layers are a mixture of fine earth and fragmented rock which rest on the pre-existing rock bed.
- Secondly, soil which has not been tilled by man, or where only the top 25 cms. have been disturbed, the remaining profile being left in its natural state. This is naturally less common in the region since the planting of vineyards necessitated the levelling and terracing of the ground. Such soil is therefore only found where no vines have been planted or in places where no levelling has been called for.

The 1/1000.000 scale map of Portuguese soils, published in 1971, clearly shows the areas that make up the first of the above-mentioned groups and which existed in the Douro long before they were touched by human hand, and also those that still remain undisturbed (2nd group). They comprise:

- Lithosols – These would have made up the greater part of the Douro soils, extending from Mesão Frio to Mazouco along the



Man-made soil, after the breaking up of the bed-rock.

Douro valley. Such soils, resting on bed-rock, have a natural depth of less than 10 cms., have no carbonates in their profile, with a degree of saturation in bases of less than 50%. They mostly derive from schist, and from granite only in the area around Vila Real and Alijó.

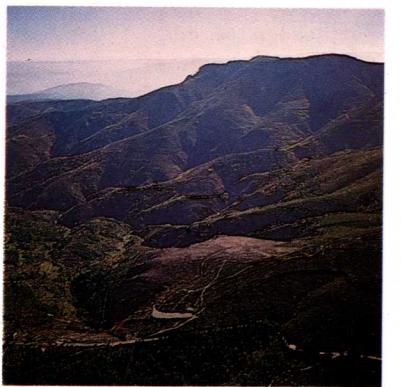
- Cambisols – Connected with the afore-mentioned, these may derive from schists (area of S.ª Marta de Penaguião) or from granites (in the part of Vila Real and Alijó zones). These are soils with a depth of more than 25 cms. and with or without horizon B. (¹).
- Luvisols – In the areas around Barca d'Alva and near Murça. These have a clay horizon B, derived from another layer, deep grey or red in colour, and without carbonates.
- Fluvisols – There are two small spots of these, one in the Tua valley between Alijó and Carrazeda de Ansiães and a second in the valley of the Vilarica. These are the result of recent alluvial deposits with a saturation of less than 50% and a depth of between 20 and 50 cms..
- Rocky outcrops – These appear throughout the region, usually on the summits. They are basically made up of masses of quartz and schists.

From analysis of samples, taken from widely ranging localities in the Douro area and carried out in the laboratory, the following conclusions may be drawn:

TEXTURE – The three main types of texture found in Douro soils are sandy-loam, loam and silt-loam, the first of these predominating and always containing a high proportion of fine sand and silt. In considering soil textures it is important to stress the high admixture of coarse fraction (essentially gravel and rocks), as this has a very relevant part to play in the characteristics of the soil and in the planting and culture of the vines, notably in the following ways:

- By allowing the vine roots to penetrate and establish themselves more easily, and then to spread over a greater volume of soil in their search for water and nourishment.
- Owing to their deep colour, with a low albedo, these rock fragments easily absorb radiant energy, thus increasing soil temperature which in turn produces quicker and healthier maturation.

(¹) Horizon rich in clay formed *in situ*.



The Marão range in the background. These mountains play a vital role in forming the climate of the Demarcated Region.

– The stoniness of the surface not only helps to control temperatures, thus avoiding extremes of heat or cold, but at the same time protects the soil from erosion by storms, sheltering it from the direct impact of the rain and reducing surface wastage.

ORGANIC MATERIAL – The proportion of organic matter in Douro soils is generally speaking low (0.6-1.6 %) and only rarely medial (1.6-5.0).

SOIL REACTION – In the Douro averagely acid soils predominate (pH (H₂O) 4.6 to 5.5) followed by soils with low acidity (pH (H₂O) 5.6 to 6.5). Very acid soils (pH < 4.5) are less frequently found, and neutral soils (pH (H₂O) 6.6 to 7.5) are rarest of all.

CONTENT OF PHOSPHOROUS AND ASSIMILABLE POTASSIUM – The proportion of phosphorous is generally low or very low. As regards potassium the percentage is usually high or very high, though there are a substantial number of areas in which the readings are average or even low.

3.1.3. CLIMATE

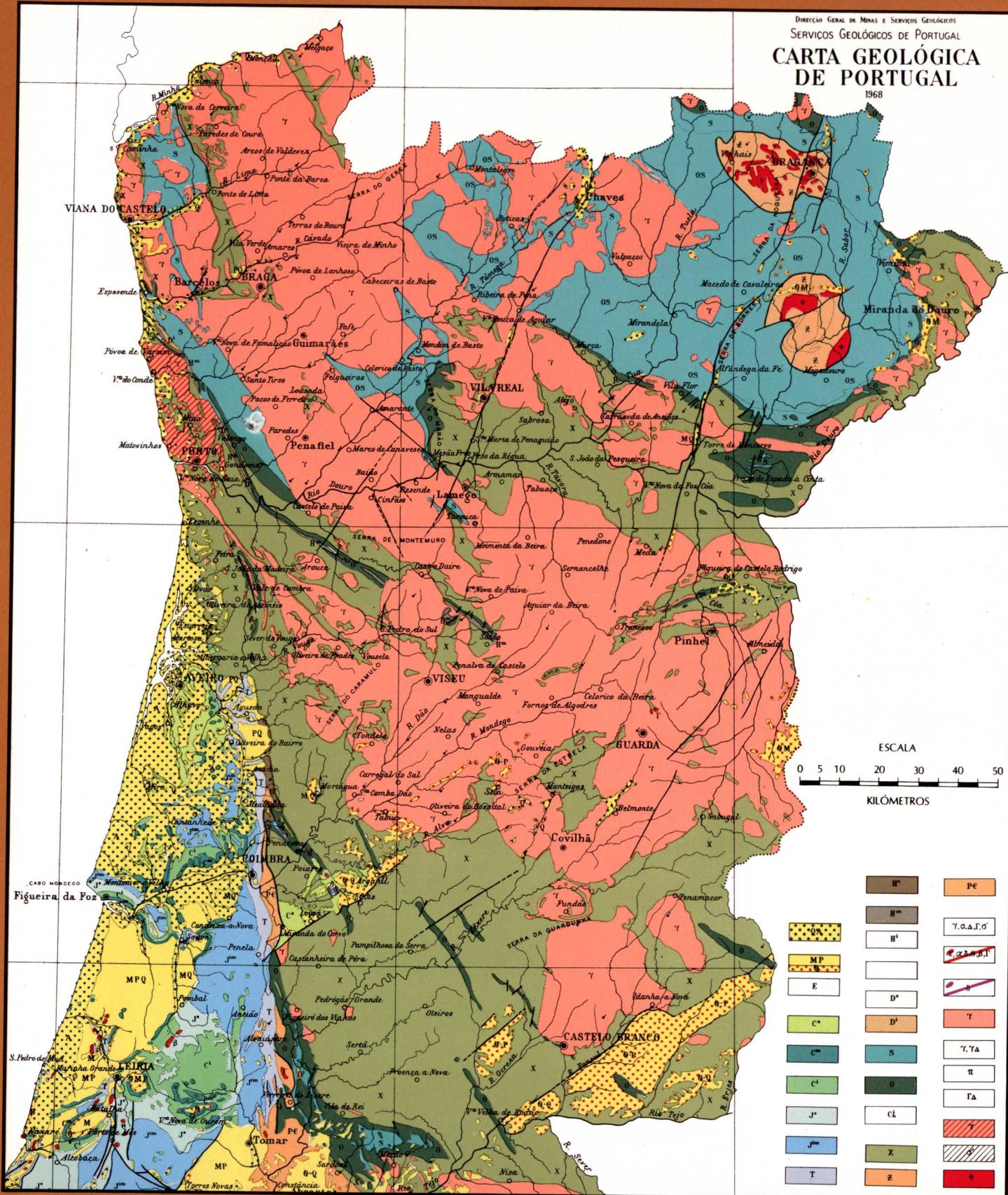
The Douro Region, between Barqueiros and Barca d'Alva, taking in the valley of the Douro itself – its back-bone – and those of its tributaries, stretches both north and south through varying longitudes and altitudes, but never too far from the river that gives it its name; hence the old saying, "The wine to be good must hear the creak of the tiller." (1)

Just below Barqueiros, where the Demarcated Region begins the Douro winds between high and steeply sloping hills in a very marked S-bend. This is where the river meets the great land mass of the Marão range, the high barrier on the side of which the damp Atlantic winds deposit a large part of their moisture. This escarpment has, therefore, a paramount influence on the climate of the Douro Region. The whole area is a complex of deep valleys, shielded by mountain ranges running up to 1 000 metres in height.

Following the river downstream, we have on the right bank the sierras of

(1) The old wine-boats were steered by a very long rudder – the "espadelha".

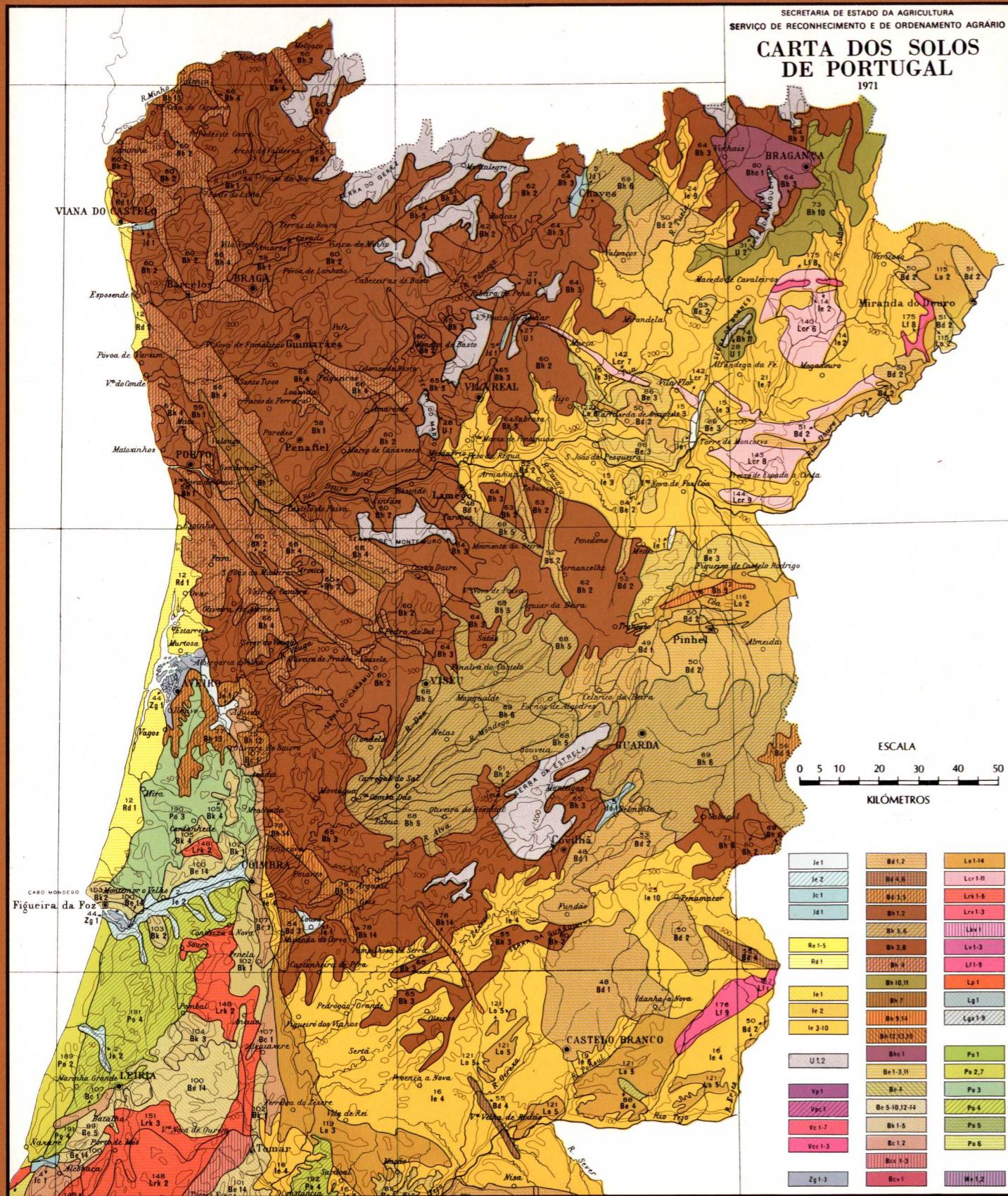
GEOLOGICAL MAP PORTUGAL



LEGEND

Reduction of the Geological Map of Portugal, scale 1:1 000 000, ceded by the Serviços Geológicos de Portugal
(Direcção Geral de Geologia e Minas)

SOIL MAP
PORTUGAL



LEGEND

(According to the FAO project for the Map of the Soils in Europe)

J – FLUVISOLS

- Je 1 Eutric Fluvisols
- Je 2 Idem (associated to calcareous Fluvisols)
- Jc 1 Calcareous Fluvisols
- Jd 1 Dystric Fluvisols

R – REGOSOLS

- Re 1-5 Eutric Regosols
- Rd 1 Dystric Regosols

I – LITHOSOLS

- le 1 Eutric Lithosols
- le 2 Idem (ultrabasic rocks)
- le 3-10 Idem (associated to Luvisols)

U – RANKERS

- U 1, 2 Rankers

V – VERTISOLS

- Vp 1 Pellic Vertisols
- Vpc 1 Calcareo-pellic Vertisols
- Vc 1-7 Chromic Vertisols
- Vcc 1-3 Calcareo-Chromic Vertisols

Z – SOLONCHAKS

- Zg 1-3 Gleyic Solonchaks

B – CAMBISOLS

- Bd 1,2 Dystric Cambisols (eruptive rocks)
- Bd 4,6 Idem (Ordovician schists and quartzites)
- Bd 3,5 Idem (post-Palaeozoic sedimentary rocks)
- Bh 1,2 Humic Cambisols (eruptive rocks)
- Bh 5,6 Idem (associated to dystric Cambisols) (eruptive rocks)
- Bh 3,8 Idem (schists)
- Bh 4 Idem (schists) (associated to Luvisols, strong atlantic influence)
- Bh 10,11 Idem (schists) (associated to Luvisols, weak atlantic influence)
- Bh 7 Idem (Ordovician schists and quartzites) (strong atlantic influence)
- Bh 9,14 Idem (Ordovician schists and quartzites) (moderate atlantic influence)
- Bh 12,13,15 Idem (post-Palaeozoic sedimentary rocks)
- Bhc 1 Chromic-humic Cambisols
- Be 1-3,11 Eutric Cambisols (eruptive rocks)
- Be 4 Idem (Ordovician schists and quartzites)
- Be 5-10,12-14 Idem (post-Palaeozoic sedimentary rocks)
- Bk 1-5 Calcic Cambisols
- Bc 1,2 Chromic Cambisols
- Bcc 1-3 Calcareo-chromic Cambisols
- Bcv 1 Vertic-calcareo-chromic Cambisols

L – LUvisOLS

- Lo 1-4 Orthic Luvisols
- Lcr 1-11 Rhodo-chromic Luvisols
- Lrk 1-5 Calcic-rhodo-chromic Luvisols
- Lrv 1-3 Vertic-Calcic-rhodo-chromic Luvisols
- Lkv 1 Vertic-calcic Luvisols
- Lv 1-3 Vertic Luvisols
- Lf 1-9 Ferric Luvisols
- Lp 1 Plinthic Luvisols
- Lg 1 Gleyic Luvisols
- Lga 1-9 Albo-gleyic Luvisols

P – PODZOLS

- Po 1 Orthic Podzols
- Po 2,7 Idem (associated to eutric Regosols)
- Po 3 Idem (associated to dystric Cambisols)
- Po 4 Idem (associated to eutric Cambisols)
- Po 5 Idem (associated to gleyic Luvisols)
- Po 6 Idem (associated to calcareous Cambisols)

W – PLANOSOLS

- We 1,2 Eutric Planosols



Mogadouro (920 m), Lagoaça (885 m), Roboredo (920 m), Bornes (1 212 m),

Reborosa (893 m), Candoso (731 m), Santa Comba (999 m),

Vilarelho (822 m), Preta (1 031 m), Falperra (1 132 m), São Domingos

(862 m), Brunheiro (882 m), Padrela (1 151 m), Alvão (1 206 m) and

Marão (1 415 m).

And on the left bank the sierras of: Marofa (977 m), Sirigo (988 m),

Leomil (1 009 m), Piedade (909 m), S. Domingos or Queimada

(737 m), Muro (1 095 m), Meadas (1 123 m), Bigorne (1 211 m) and

Montemuro (1 382 m).

This series of ranges protects the Region not only from the Atlantic



A relief-map of the Region: the barrier formed by the Serra do Marão is clearly visible to the left.

breezes but also from the cold north winds, and results in climatic conditions that are peculiar to the Douro alone.

Thus the average rainfall is relatively small and decreases as one goes upstream and the climate becomes progressively more continental. The average annual rainfall at Régua is about 980 mm., at Pinhão 710 mm., but by the time Barca d'Alva is reached this has fallen to 400 mm⁽¹⁾. On the higher lands, away from the river, the rainfall also tends to rise though more erratically, as may be seen from J. Pina Manique's Pluviometric Map of the area.

The variation in the rainfall is paralleled, though inversely, by the average temperatures. These rise as one follows the valley upstream and decrease as one moves away from it.

During the growing season the average sum-total of positive temperatures (T-10 degrees C) is 1 837 degrees C, and the hydric mean (Thorn) varies between -20 and +20.

Snow is rare in the Region, but frosts in late autumn and early winter are both frequent and severe. In spring, on the other hand, the frosts are seldom dangerous.

⁽¹⁾ The average rainfall in Oporto over the last decade (1970/79) was 1,280 mm.

From the above, it will be seen that the Region really has three types of climate – Atlantic, Atlantic-Mediterranean, and Mediterranean. Broadly speaking, it is the middle reaches with the Atlantic-Mediterranean climate that tend to produce the finest Ports.

3.1.4. VARIETIES OF VINES⁽¹⁾

Port is produced both from red and white grapes, the varieties in each case being divided into five categories: very good, good, average, mediocre and bad. Among the red grapes the following varieties may be mentioned: Malvasia Preta, Mourisco Tinto, Tinta Amarela, Tinta Barroca, Tinto Cão, Tinta Roriz, Touriga Francesa, Touriga Nacional; and among the whites: Codega, Gouveio, Malvasia Fina, Malvasia Rei and Rabigato.

This wide variety of types may be found surprising in a Demarcated Region of high quality wine. ⁽¹⁾ Yet so it is; and if one recalls what has been said of the climate and the nature of the country, with its steep hillsides and ever changing aspects, as well as the variations in altitude and temperature, and the sharp fluctuations in the rainfall, which in some places may be twice the mean average, then such diversity is not really so surprising.

Very often the same variety of grape, growing on precisely the same meridian, will produce quite different qualities of wine at different altitudes. The same thing happens with vines planted at, say, 150 m, when these are grown on the different meridians between Régua and Barca d'Alva. Furthermore, as will be seen in the next chapter, Port is essentially a blended wine, and this mixture begins in the vineyard itself.

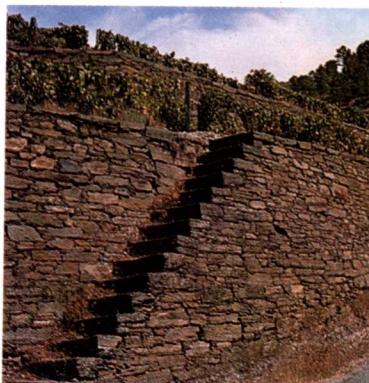
These three natural factors – soil, climate and variety of grapes – are indeed so interlinked that, in the absence of any one of them, no wine will have the unmistakable characteristics of a genuine Port.

⁽¹⁾ Recent studies, based on texts carried out by Engº A. Taborda at the Estação Vitivinícola do Douro, tend to define a new list of varieties and their grading as to quality.

⁽²⁾ Ruy Fernandes, writing of the Lamego area in 1531, mentions "... the great number of varieties some of which thrive if others fail..."

DOURO
CLIMATOLOGY





3.2. HUMAN FACTORS

The tables showing the number of growers in the various municipalities in 1979 and their productions in the period 1969/1979, give a fair idea of how the vineyards of the Region are distributed and of the productiveness of the different zones.

3.2.1. THE PREPARATION OF THE GROUND

A thorough working of the soil is a *sine qua non* in establishing a successful vineyard. Trenching is usually carried out to a depth of from 1,10 to 1,30 m, the top-soil and the lower layers being inverted. This work used to be done with iron hand-spikes and shovels, and gunpowder was not infrequently used to break up the more unyielding lumps of schist. The bigger stones were then set aside to build up the walls supporting the narrow terraces which still line.

STRUCTURE OF THE WINE PRODUCING PROPERTIES in 1979

PARISHES	Number of growers	Number of properties	Number of vines	Average of properties per grower	Average of vines per grower	Average of vines per property
BAIXO CORGO						
Mesão Frio	1 159	2 412	8 174 160	2,1	7 053	3 389
Peso da Régua	2 783	6 721	22 196 080	2,4	7 976	3 302
Sta. Marta de Penaguião	2 708	8 036	18 608 610	3	6 872	2 316
Vila Real	2 102	6 536	12 832 680	3,1	6 105	1 963
Resende	249	781	1 376 380	3,1	5 529	1 762
Lamego	2 691	6 983	18 625 240	2,6	6 921	2 667
Armamar	1 125	3 463	7 030 370	3,1	6 249	2 030
TOTAL	12 817	34 932	88 843 520	2,7	6 932	2 543
CIMA CORGO						
Sabrosa	1 921	4 597	13 394 010	2,4	6 972	2 914
Alijó	4 270	14 897	23 350 400	3,5	5 468	1 567
Murça	1 060	3 638	4 176 290	3,4	3 940	1 148
Carrazeda de Ansiães	2 050	7 943	8 015 074	3,9	3 910	1 009
Tabuaço	1 016	2 833	5 739 410	2,8	5 649	2 026
S. João da Pesqueira	2 414	5 605	17 501 740	2,3	7 251	3 122
TOTAL	12 731	39 513	72 176 924	3,1	5 669	1 827
DOURO SUPERIOR						
Vila Flor	700	1 984	2 788 853	2,8	3 984	1 406
Moncorvo	752	1 669	3 361 760	2,2	4 470	2 014
Freixo-de-Espada-à-Cinta	403	610	2 171 200	1,5	5 387	3 559
Alfândega da Fé	9	11	148 860	1,2	16 540	13 533
Vila Nova de Foz Côa	1 999	3 522	11 371 726	1,8	5 689	3 229
Meda	805	1 748	3 915 050	2,2	4 863	2 240
Mirandela	3	7	154 659	2,3	51 553	22 094
Figueira de Castelo Rodrigo	160	264	530 160	1,6	3 313	2 008
TOTAL	4 831	9 815	24 442 268	2	5 059	2 490
GROSS TOTAL	30 379	84 260	185 462 712	2,8	6 105	2 202

WINE PRODUCTION OF THE DOURO DEMARCATED REGION
1969/1979

YEARS	Growers		Hectolitres (must)		
	Total	N.º of growers %	Port Wine	Total	Port Wine
1969	24 051	8 165 33,9	1 004 194,39	332 255,57	33
1970	23 728	8 453 35,6	1 024 228,58	330 942,60	32,3
1971	22 992	8 703 37,8	925 180,26	335 152,65	36,2
1972	23 103	9 774 42,3	921 124,50	434 022,36	47,1
1973	23 297	11 958 51,3	1 189 288,00	685 643,30	57,6
1974	28 795	13 462 46,7	1 469 816,53	526 000,52	35,7
1975	28 714	13 421 46,7	1 212 628,31	437 232,44	36
1976	28 541	14 152 49,5	933 164,53	487 589,42	52,2
1977	29 141	16 154 55,4	966 099,30	550 559,41	56,9
1978	28 836	14 890 51,6	870 117,93	459 179,71	52,7
1979	30 379	10 556 34,7	1 387 363,66	529 763,71	38,2

many of the hillsides. Nowadays powerful bulldozers are often used for this work, and the old terraces are giving way to wider, banked-up slopes. But to the visitor, looking at the terraced vineyards, the Douro hillsides still seem to have been sculpted in a series of giant steps, their width varying according to the steepness of the slope. However, testing grounds for new methods of building up the soil have made possible the development of more practical lay-outs which allow for the use of mechanised labour on a large scale, and these are being adopted in the new plantations.



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Trench ploughing was formerly done with iron bars, with occasional recourse to gunpowder.

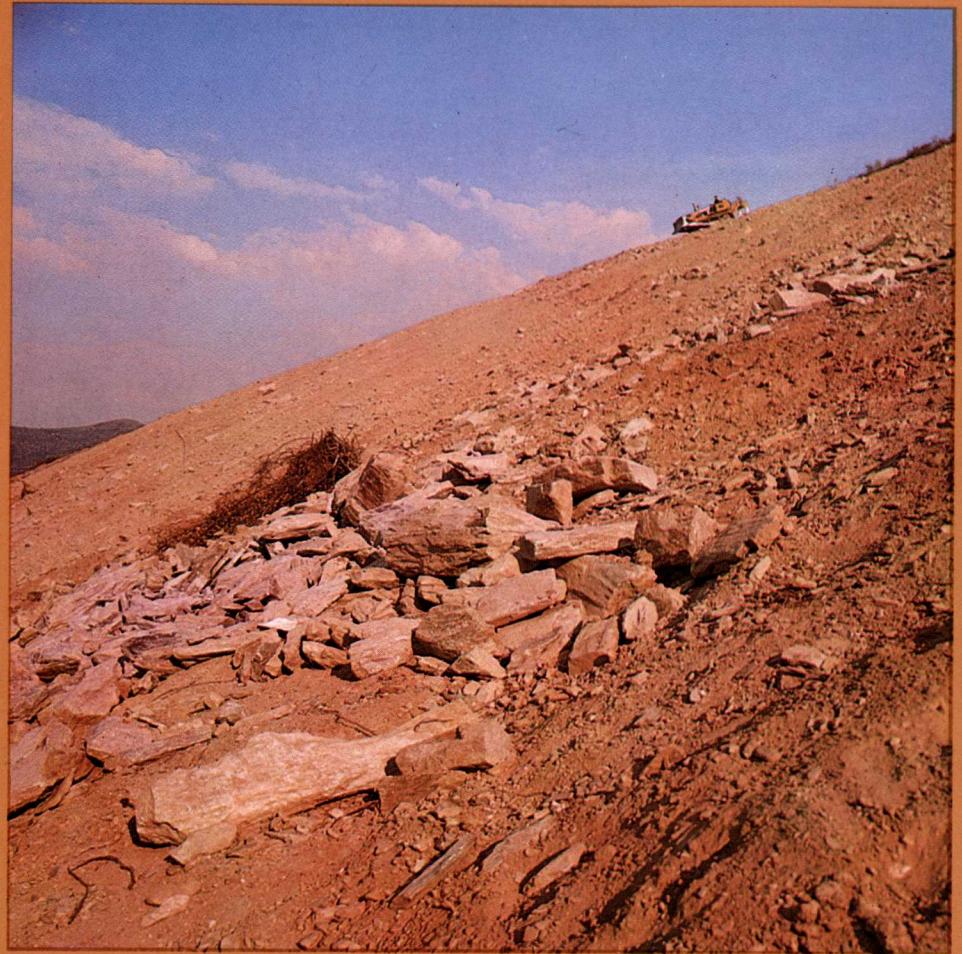


3.2.2. THE PLANTING

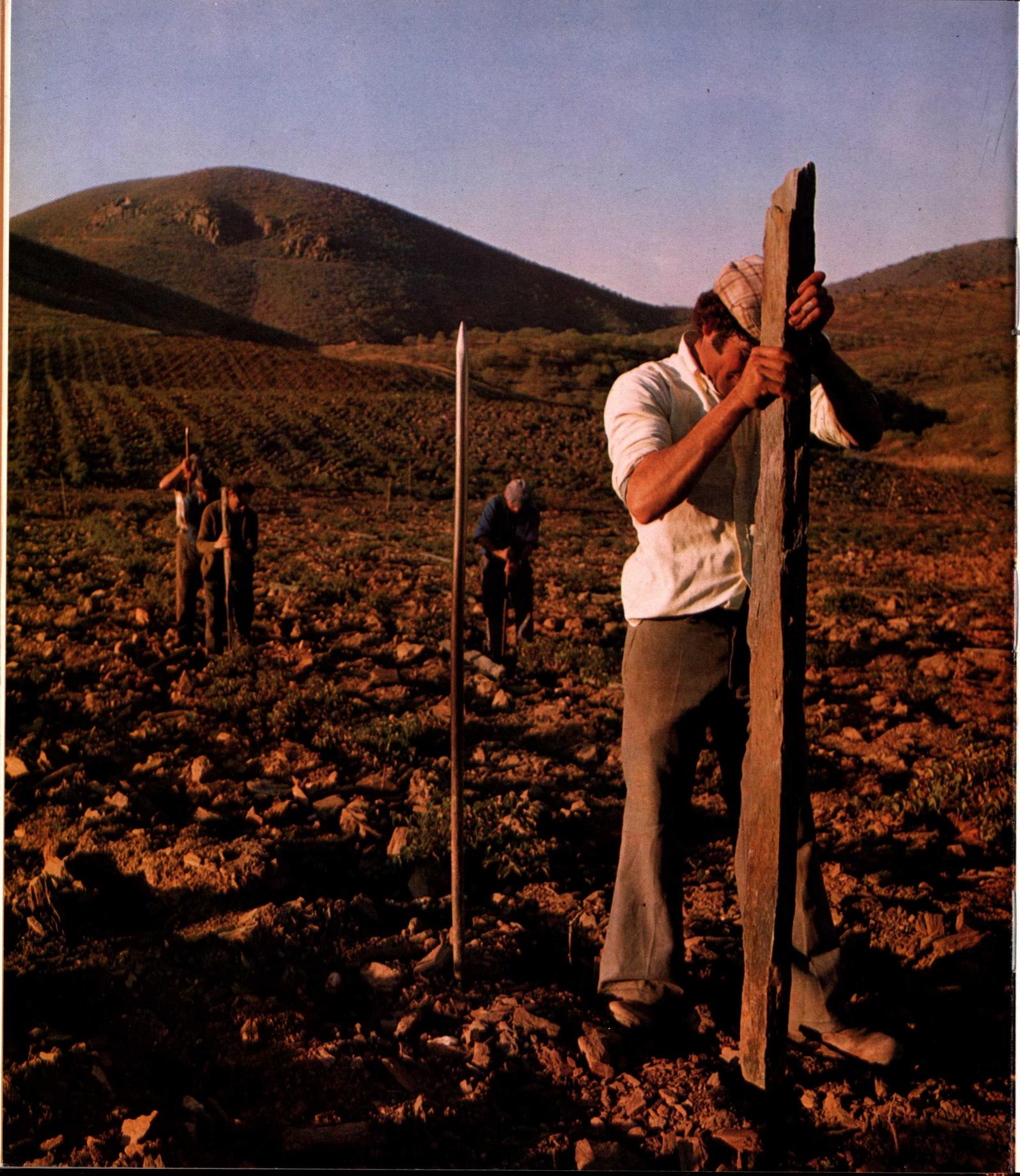
(1) The Estação Vitivinícola do Douro has been experimenting planting along lines of the maximum gradient, studying the effects of erosion, the behaviour of the plants, and the quality of the wine produced from them.

The vines are planted in rows running parallel to the contours of the terraces (1) The usual space allowed for each vine was 1,30 by 1,10 m, but this shows a tendency to increase especially in vineyards

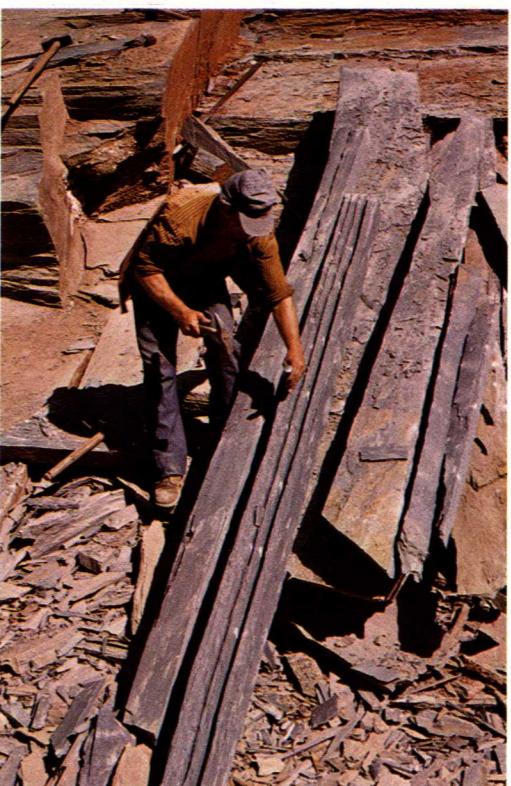
105



These days the soil is deeply ploughed by powerful machines.



A quarry showing the stakes of slaty schist commonly used as supports for the vine trellises.





where mechanisation is, or may become, possible, in view of the constant new developments in mechanised equipment. It seems unlikely, however, that it will ever exceed 2,10 by 1,20 m.

The most popular root-stock has been the *Rupestris du Lot* which proved one of the most satisfactory following the phylloxera scourge ⁽¹⁾. From 1950 onwards *Berlandier* hybrids have also started to be used, either the *Riparia* strains, such as the 420-A the SO4, the 161/49, etc., or the *Rupestris* varieties, notably the R. 99, R. 110 and the 196/17, etc.. The former are used in the cooler, lowlands, and the latter on hot, dry, stony hillsides.

Once the ground has been well prepared, planting takes place at the end of the following winter or in early spring, and the vines are grafted one or two years later, using a simple cleft graft.

Experiments with new techniques of bench-grafting are being tried out with success, until recently results with this method have proved very chancy owing largely to climatic conditions, notably the rainfall and the high temperatures in summer.

Before grafting takes place, props of slate or treated wood are put up to carry the wires, two or three per row, along which the vines will be trained. These are always strung before the graft comes into bud to avoid damaging the plant.

Once the vines are established, the earth round them is dug over deeply in autumn or early winter, when any suckers are removed. This is known as the "escava". In spring the soil is hoed "a cava", and is dressed again in late spring or early summer "as redras". A popular saying in the region runs:

"Hoe me in May, dress me in June, and then run and play."

The vines are seldom manured, there being little organic manure in the Region. In winter they are treated with chemical fertilizers of various kinds, though these seldom vary much in composition, viz: - 8 parts nitrogen, 12 parts phosphorous and 15 parts potassium (1-1,5-2).

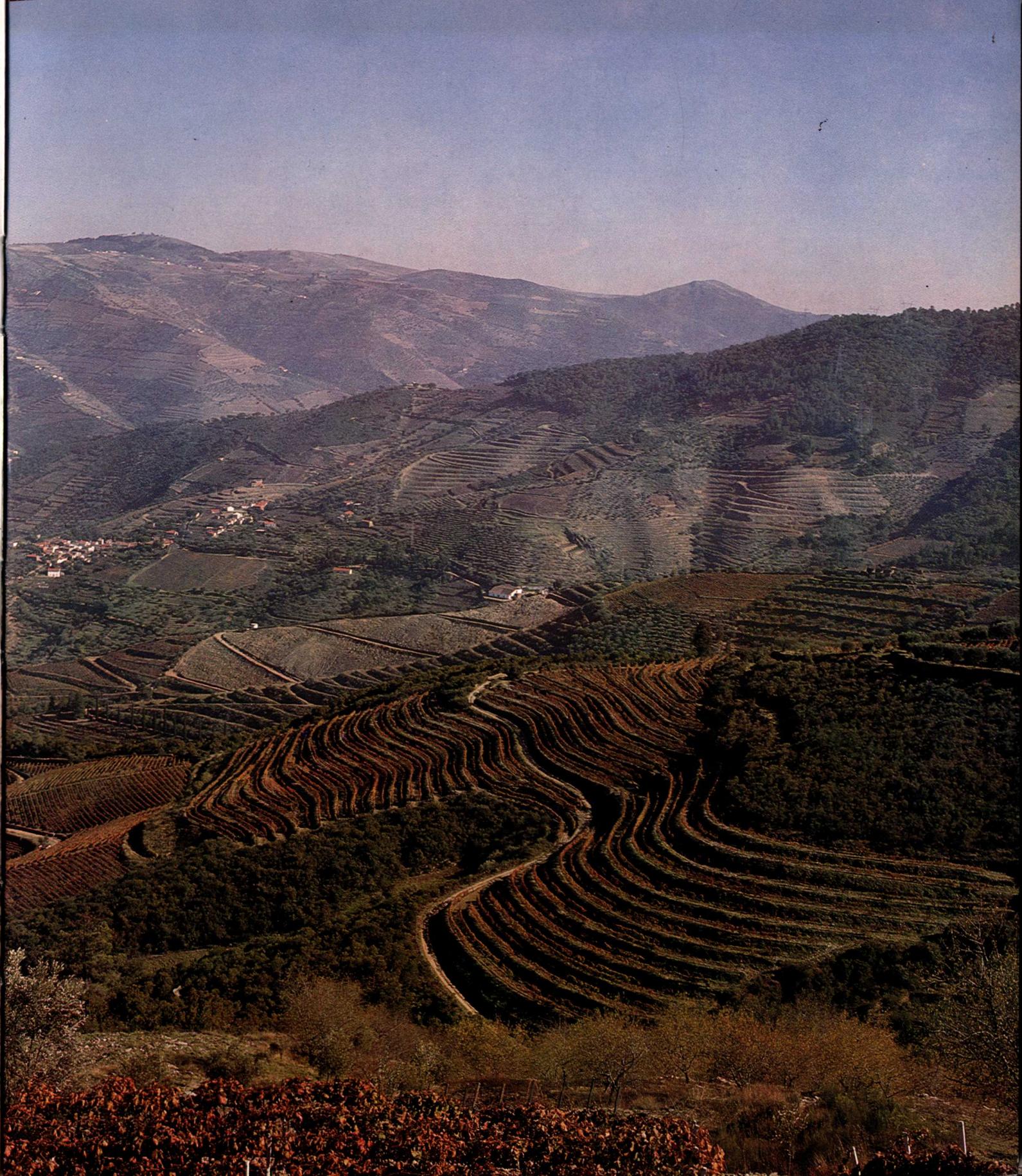
The most usual form of pruning employed is the double GUYOT in which the shoots are left with 3 or 5 eyes. Allowing also for the heels, this gives an average of 8/12 per plant.

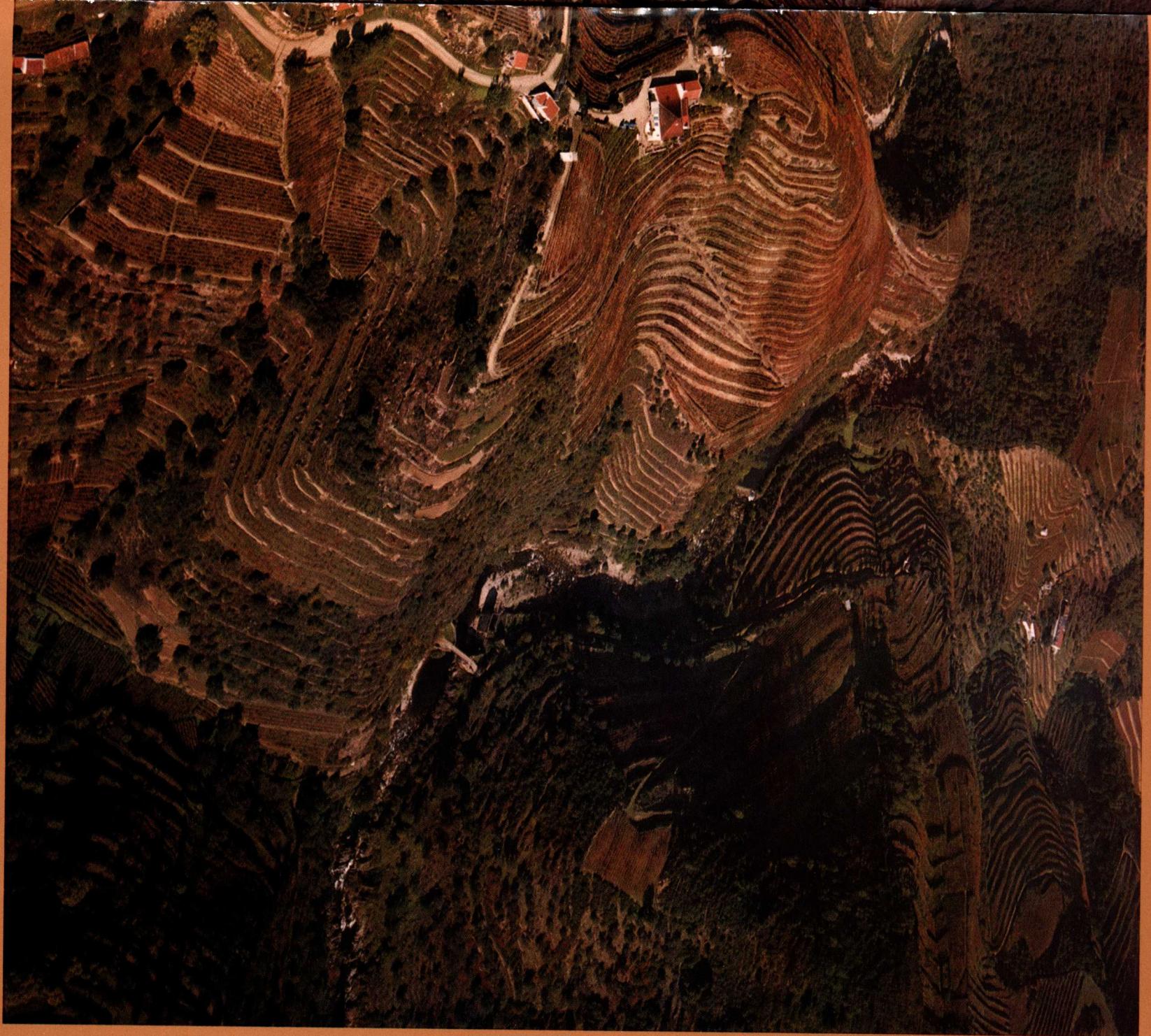
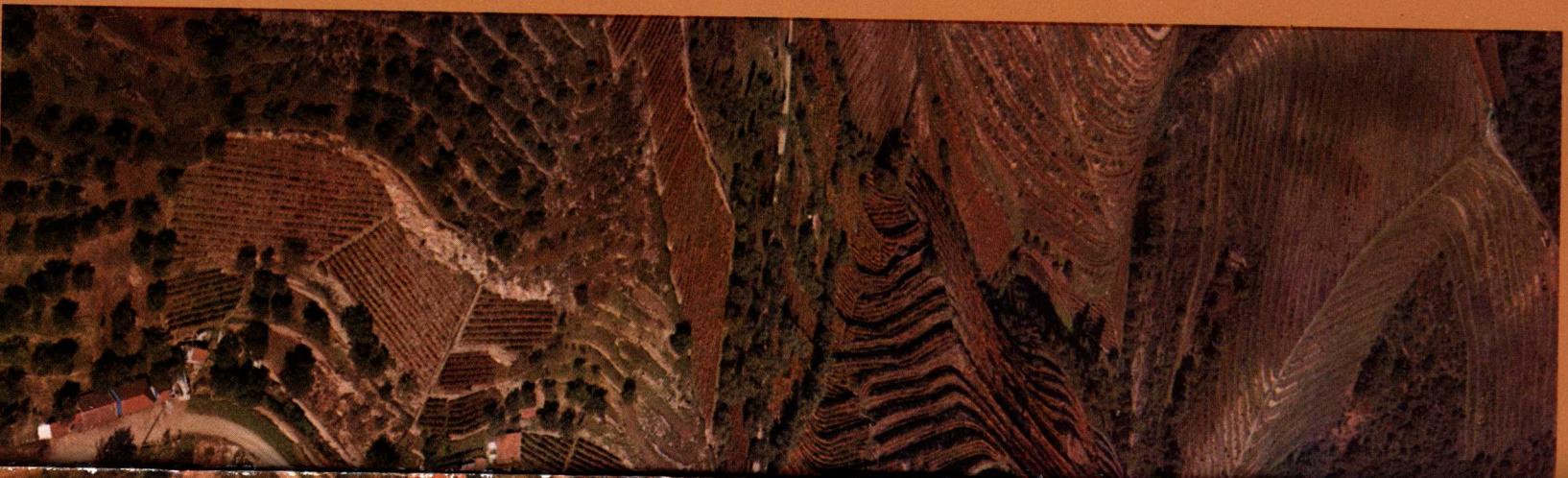
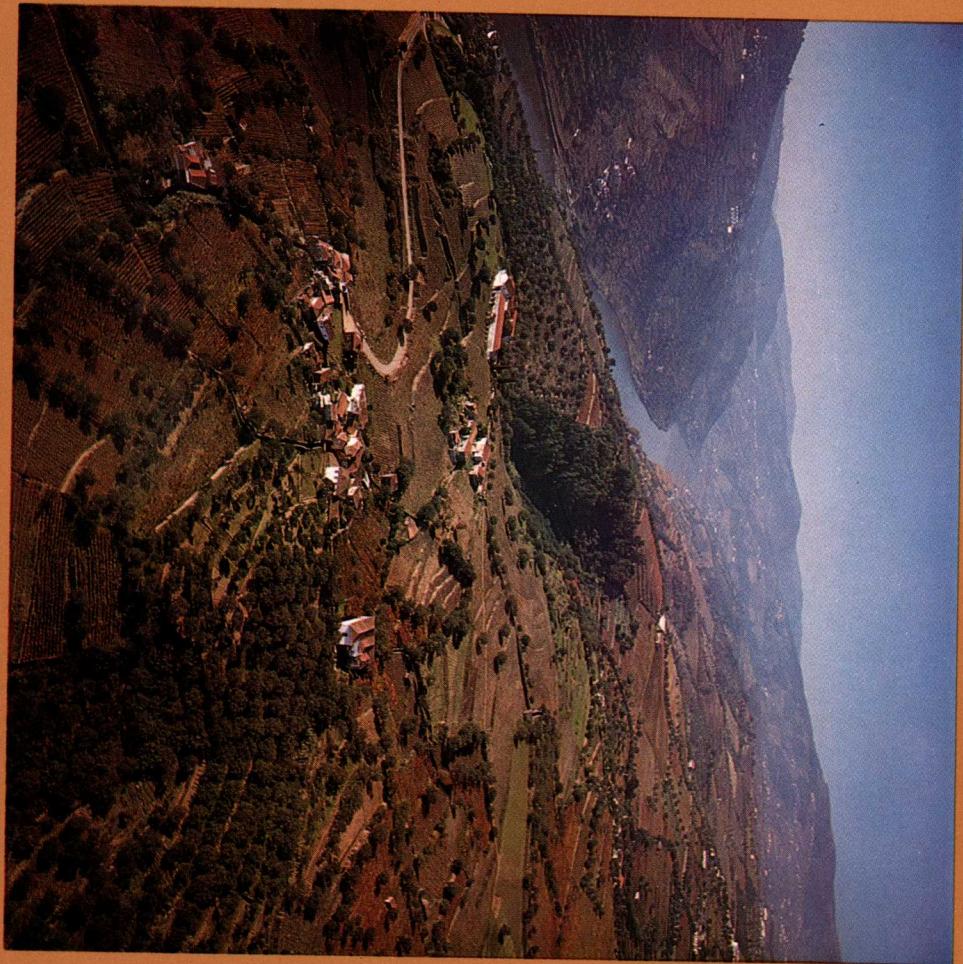
The canes of the vine are normally tied to the first wire which runs

Photo opposite page ▷

On the first plan Experimental Field set up in 1967, sponsored by the Centro de Estudos Vitivinícolas, to study mechanisation, varieties of vines and grafting techniques. Beyond may be seen a vineyard planted in lines of maximum gradient.

⁽¹⁾ The great phylloxera attack started in the Douro Region in 1868. In 1871 the Anti-Phylloxera Committee was set up under Batalha Reis, and its findings led to the adoption of this stock.







some 45 cm above the ground. As soon as the new shoots reach the second wire, they are tied. Further tying is only undertaken when growth starts to impede movement between the rows.

3.3. DISEASES; DEFICIENCIES AND PARASITES

The commonest prophylactic treatments are sulphur fumigations against the oidium and sprays to prevent mildew. The oidium first appeared in the Douro in 1851 and caused great damage. To combat it powdered sulphur is used, two treatments usually proving sufficient. The first is made when the shoots have grown to between 15 and 30 cms, the second at the flowering period. After the grapes are formed come the "revisões" – involving a general inspection of the vineyard, powdered sulphur being applied to those bunches which show any trace of the fungus. Mildew came to the Douro in 1893. It is treated with copper sulfate in an alkaline Bordeaux mixture and with organic or organo-cupric composts. The number of treatments will obviously vary according to conditions. In very bad years and in damp areas as many as ten may be called for, though six is more usual, and in certain zones with an Atlantic-Mediterranean climate only two or three may be necessary.

As in many other wine-growing regions Botrytis Cinerea (causing the bunches to rot) is gaining a hold in the zones most affected by the Atlantic climate, and this requires specific treatment.

About 1948 the disease known as Maromba began to reoccur in the Region. At first this was thought to be a virus but happily this proved not to be the case. It was discovered that Maromba was due simply to a deficiency of boron in the soil, and that it could be effectively combatted by applying borax at the rate of 7 to 10 grams per square foot, according to the acidity of the soil. The combination of borax and cupric sprays also gives good results, but these must be carried out three times, once before the flowering period and twice immediately after it. The recommended strength is from

(1) The Maromba first attracted the attention of experts about 1845. It was first noted by Alfredo Carlos Le Cocq and then by Palma de Vilhena, both of whom thought it was the "Black Sickness" or "Gomose" owing to the morbid patches which appeared on the trunks of the vines. They were wrong; though, indeed, similar patches do appear on vines attacked by Maromba. In 1948, when Eng. Orlando Gonçalves was head of the then Posto Vitivinícola da Régua, the National Agronomic Station undertook to study the matter at his request. The solution was the result of investigations by Eng.º Humberto Dias. The application of Boron had a marked effect on the rate of production in the Region. This rose by 110 to 137,500 hectolitres.

0,5 kgs of borax per 100 litres of liquid (1) The sprays do not take the place of the addition of borax to the soil, which should be undertaken at intervals of 5 or 6 years, but complement it where necessary. During recent years the Douro vineyards have been attacked by yet another pest. This is the grape-moth, the generic name given to the Cochylis and the Eudemis. These sometimes have as many as three or four hatchings in a single season, and can do serious damage both to the quality and to the quantity of the grapes by causing the affected bunches to rot very quickly. Treatment with products containing phosphoric steres has proved very successful. If the first treatment is given at the right time, usually just before efflorescence, this pest can probably be controlled with a second treatment when the grapes are the size of shot-guns pellets. If these two treatments have not been carried out at the right moment, a third and, if needed, even a fourth treatment are recommended.

THE TECHNOLOGY OF PORT-MAKING

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IV – THE TECHNOLOGY OF PORT-MAKING

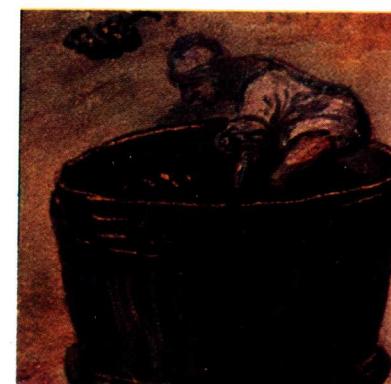


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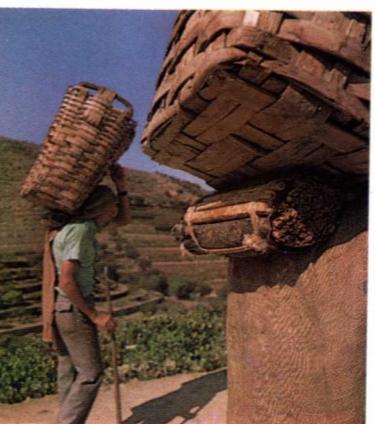
(1) It was the custom at this point to sing a song which may sometimes still be heard. The chorus ran:

(Liberty! Ah, liberty!
 Only to the few you're known;
 If only I had liberty
 Just to call me feet me own.)



4.1. THE MAKING OF THE WINE

Port Wine, and particularly red Port, is characterised by its deep colour and high reduced extract. To obtain these the grapes must be thoroughly crushed before fermentation sets in. Only in this way can the necessary extract and colour be obtained since none of the regional varieties has the red pulp and juice of teinturier grapes... Allowance must also be made for the fact that the "must" is separated from the skins and stalks of the grape before the total sugar + fermentation is complete. This greatly shortens the time allowed for the dissolution of the colouring matter. Hence the need for the grapes themselves to be perfectly macerated. In the old days the grapes were bought in baskets, weighing approximately 60 kilos, tipped into "lagares" (tanks) usually of granite, and here trodden by foot without any mechanical crushing. The number of men detailed for this first crushing, known as the "corta", was two per pipe. It lasted for four hours, the first two of which were very rough work for the treaders. It was carried out like a military exercise, with parallel lines of men, linked by arms round each other's shoulders, moving backwards and forwards across the "lagar". At the end of this time discipline was relaxed, and the treaders could move around the tank freely on their own (1). This task was usually carried out at night, and the crushed grapes were then left to settle until the following morning. The next day a smaller group (about half) of treaders would return to the "lagar" for the "mexa" (stirring), and this "working of the lagar" continued



A basket for carrying grapes to the winery. A detail shows its support.

until the must reached the point at which the amount of unfermented sugar would make wine of the desired sweetness. At this point the "lagar" was opened, and the must run off into vats, fortifying brandy of 76 to 78 degrees being added little by little.

Speaking generally, to make a wine of a sweetness of 3 degrees Baumé and an alcoholic strength of 19 degrees from a must of between 12/13 degrees Baumé, this running-off would be started at between 7/6 degrees Baumé, 100 litres of Brandy at 76-78 degrees being added for every 450 litres of must.

Once this first pressing had been run off into the vat, it would be homogenized by being allowed to flow into a tub and then pumped back into the vat. This first pumping-over of the wine is known as the "lota".

After this operation the wine is allowed to rest until the end of December or the following January, when it is racked off the lees for the first time. If considered necessary at this point, adjustments may be made in the degree of alcohol, further brandy being added in quantities which will vary depending on the desired strength. When first manual and later mechanical crushers made their appearance, they were at once tried out in the Douro, though at first with some misgivings. However, the results proved very satisfactory. And the use of these machines to break down the bunches of grapes did away with much of the hard work previously involved in the corta.

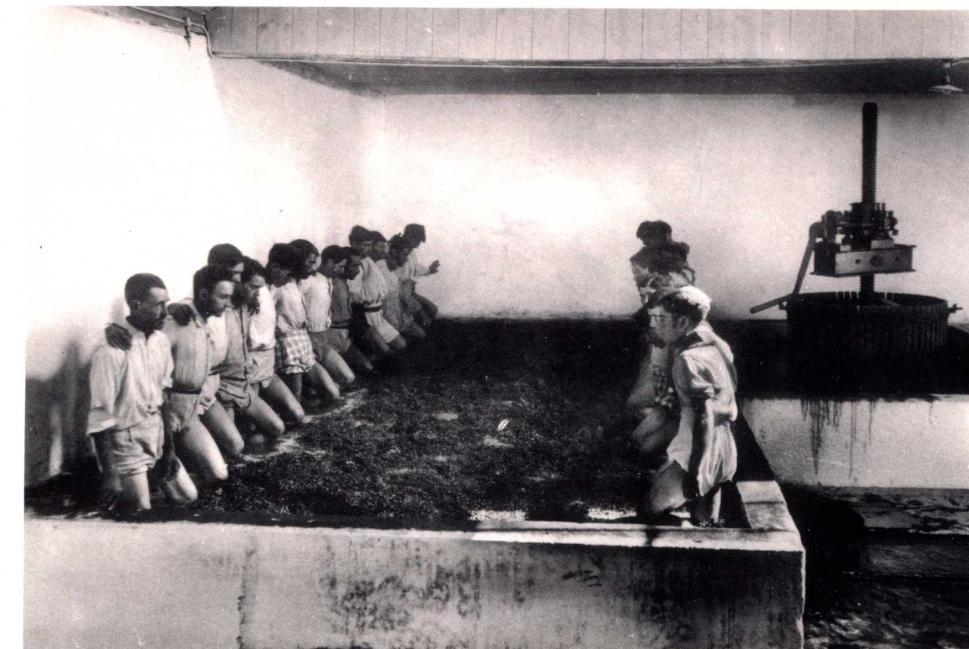
On the appearance of fermentation tanks, these were also tried out and, after an experimental period, widely adopted. This cut out the direct human element in the process; and these days Port is often made in closed fermentation tanks sometimes equipped to turn over the wine automatically or in open tanks in which it is pumped round. There are now also tanks, both of cement and stainless steel, which are fitted with mechanical stirrers.

When such tanks are used, the grapes are generally crushed in centrifugal crushers, fitted with pumps, in some of which the grapes after being crushed, fall into a blender which completely shreds the skins.

In these cases the total or partial removal of the stalks is called for. The running-off of the wine into the vats then proceeds as before. The one difference may be the degree of sweetness at which this process



The "Corta", or breaking-down of the grapes in the lagar.



is begun. This is more rapid than when the must is drawn off from the "lagar", because, thanks to the more rapid action of the presses, the unfermented sugar is not broken down to the same degree.

These technological innovations have in no way affected the quality of Port. It has simply been necessary to adapt the new machines so that they reproduce, as nearly as possible, the processes hitherto carried out by man.

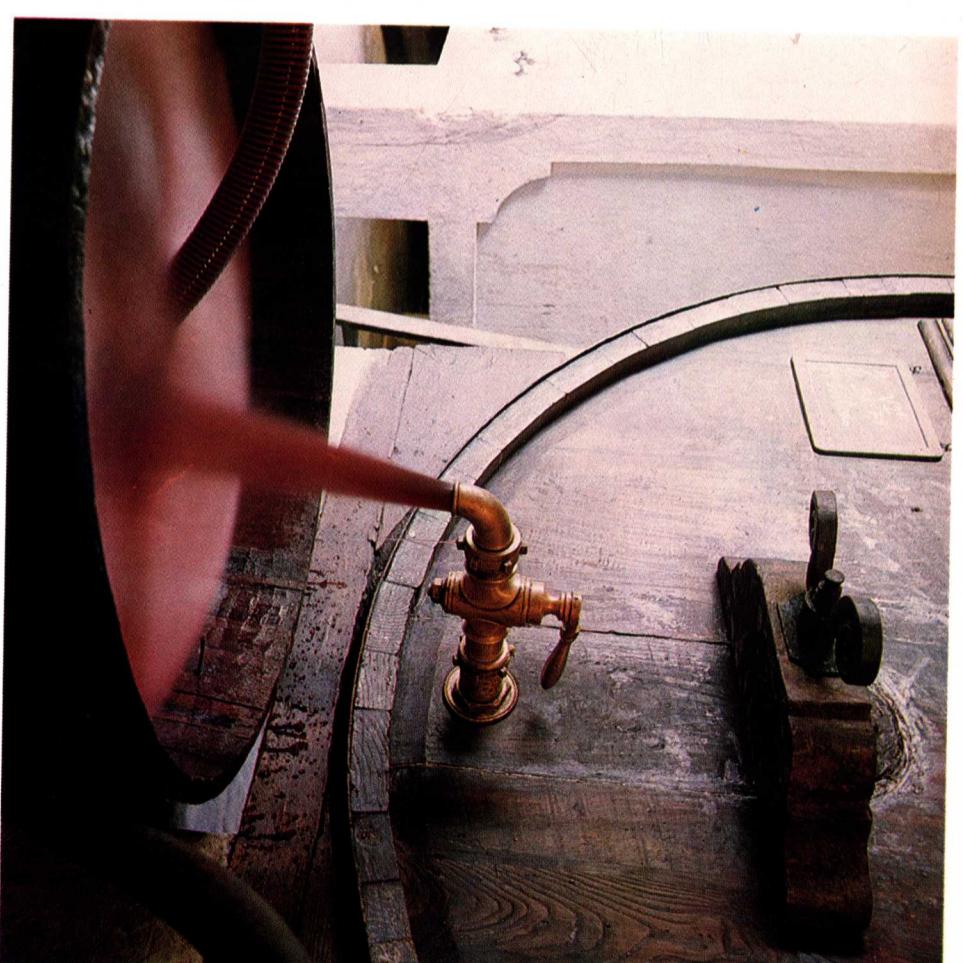
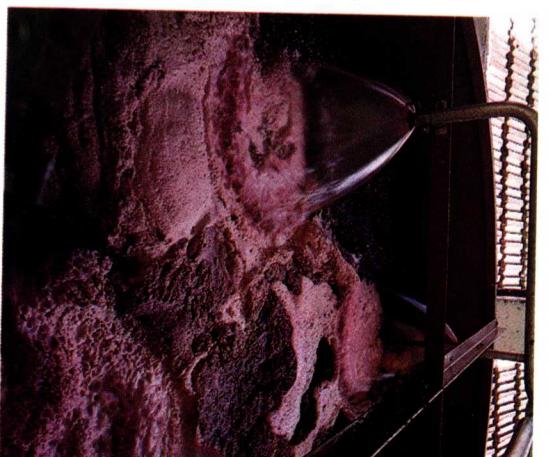
4.2. MATURING THE WINE ⁽¹⁾

Once fermentation has been stopped by the additions of grape alcohols ⁽²⁾, so that the degree of alcohol (17 to 20 degrees) both prevents further fermentation and maintains the requisite degree of sweetness, the wines are stored in tanks, vats or casks. The capacity of the container does not affect the wine at this stage and will depend largely upon local circumstances.

These days concrete tanks, coated with tartaric acid or some similar lining, are much used, as are those made of stainless steel. The

(1) We have chosen to speak of "maturing" in preference to the traditional term "ageing", as better expressing current thinking about the changes which the wines undergo during the time they are developing in the lodges.

(2) Portuguese legislation recognises two categories of grape alcohol for the fortifying of dessert wines; grape brandy with an alcoholic strength of between 76 and 78 degrees, and grape alcohol of 95 degrees, obtained either by straight distillation from wine or by a rectification of the brandy.



latter have been found particularly useful since, the metal being an excellent conductor, the wines in them are subjected to the low temperatures in winter, and this helps their clarification.

The young wines may remain in the Douro Region or be taken to the lodges in the Entrepôt at Vila Nova de Gaia. The move is carried out at the end of the year in which the wine was made or early the following year, either by train or by road in containers. It is made under strict supervision.

On entering the Entrepôt, all wines must be submitted to the Port Wine Institute's panel of tasters, and are then classified in one of three categories.

Wines in the first group – those of immaculate quality – carry special privileges. Mortgages may be raised on them, and they will influence the export quotas of individual shippers.

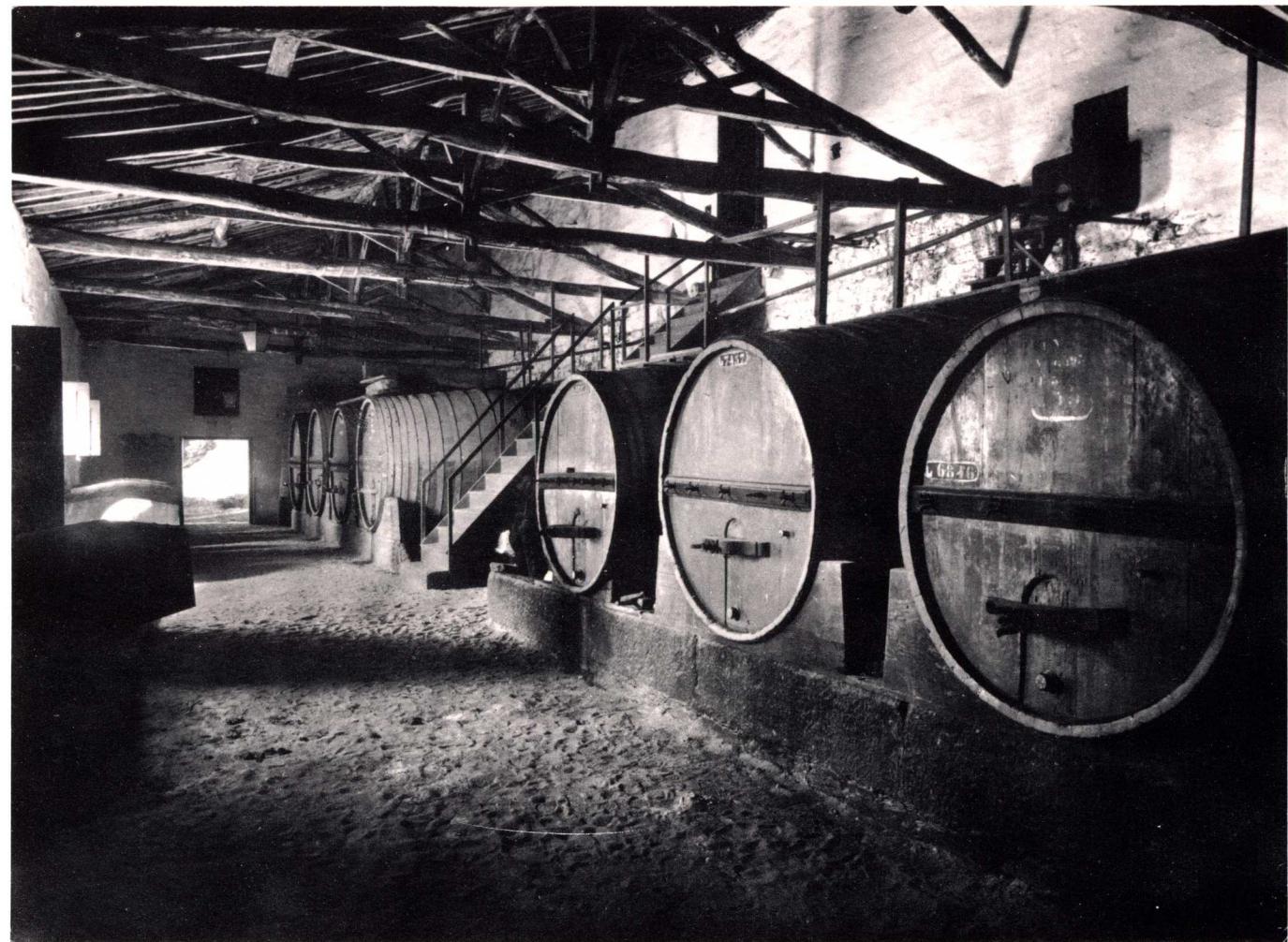
The second group consists of wines with slight imperfections but considered fit for treatment. They may not be used as security for loans, they are taken into account when fixing quotas. At the request of the shipper, such wines may be treated under supervision of the Port Wine Institute, and should subsequent tastings and analyses prove favourable, they are then reclassified in Group I and enjoy the same privileges.

Group 3 consists of wines rejected either by the tasters or the analysts. These are then subdivided into:

- a) wines which, it is thought, might respond to further treatment which can only be carried out under Institute supervision. They are kept under seal, and after treatment and blending up to a maximum of 99%, are once more sent to the Consultative Committee for examination and analyses at the Institute's laboratory. They are then either graded as Group I or compulsorily distilled.
- b) wines which are definitely rejected and condemned to be distilled. (1)

The provenance of all these wines is amply safeguarded by the care taken in issuing the documents that must accompany them

(1) The small amount of wine which falls into Group 2, and even smaller percentage classified as Group 3, may be taken as proof of the effectiveness of the established controls.



A typical Douro wine-lodge.

from the producer's vineyard and be presented at given check-points, as well as by the tally kept of the current accounts both of sellers and buyers.

On arrival at the lodges of the Gaia Entrepôt, or in the Douro itself in the case of wines left to mature there, the wine will undergo the normal processes of racking and, later, of fining. The alcoholic strength by volume is checked and raised, if need be, to 19/20° degrees Centigrade by the further addition of brandy or grape alcohol. In the Gaia lodges, too, the wines from different "Quintas" may now start to be blended, and the process of building up a wine of a



certain type is thus begun. However, in the case of wine earmarked for labelling with its date of origin, only wines of the year in question may be blended together. Experiments carried out with a view to hastening the maturing

The "rabelo" was used for the transportation of the Douro wines until the time the Carrapateiro hydro-electric dam was built (the last down river voyage took place in September 1965). It is a boat of very particular characteristics, especially suited to the river difficult navigability conditions. Its origin seems to be visigothic (see "Livro Preto", Sé de Coimbra).



process, and forcing it by more or less artificial techniques, have not been found satisfactory. The methods tried out have been many and varied, but all have been given up in view of the noticeable loss of quality resulting from them.

4.2.1. WINES MATURED IN THE WOOD

These Ports are treated by methods which aim at encouraging a lightening in colour and other mutations considered desirable. Different wines from the same vineyard are blended together, and with those from other properties, and in this way various types of blend are made up. Apart from this they are racked at least once a year to remove the deposit which has formed, and also to guarantee the essential dissolution of the oxygen.

During these first years the size of the container is of no great importance. The wine may be kept in wooden containers or vats, often of considerable size, or in oak casks of some 650 litres capacity, and even for short periods in tanks lined with tartaric acid or those of stainless steel.

The oxidizing factor, essential to maturation, is obtained by racking and consequent aeration. This was formerly done by hand, the wine being poured into the top of the cask through a funnel from a wooden jug. Nowadays it is sprayed into tubs and pumped up again into fresh containers. Whenever the wine is racked, or tests show this to be desirable, the alcoholic strength by volume is boosted. In the same way the wine may be "refreshed" by the addition of a small quantity of younger wine, if this is considered necessary.

Once the blends have been made up, in order to help the maturing, the wine is usually transferred to smaller containers – small vats or casks; but it continues to be treated with the same loving care. Finally, when the wine has reached the desired degree of maturity, the standard blends, peculiar to each firm, are made up for bottling and export.

For these "Wood" Ports, all this lodge work requires great technological expertise. And the good name of a firm will depend largely on the standards to which it is carried out.

The process of maturing is closely linked with the formation of aldehydes and, above all, with the transformation of the anthocyanins, to esterifications etc. – phenomena in which certain metallic cations seem to play an important role as catalytic

A partial view of the Entrepôt at Vila Nova de Gaia. The city of Oporto can be seen on the right bank of the river.

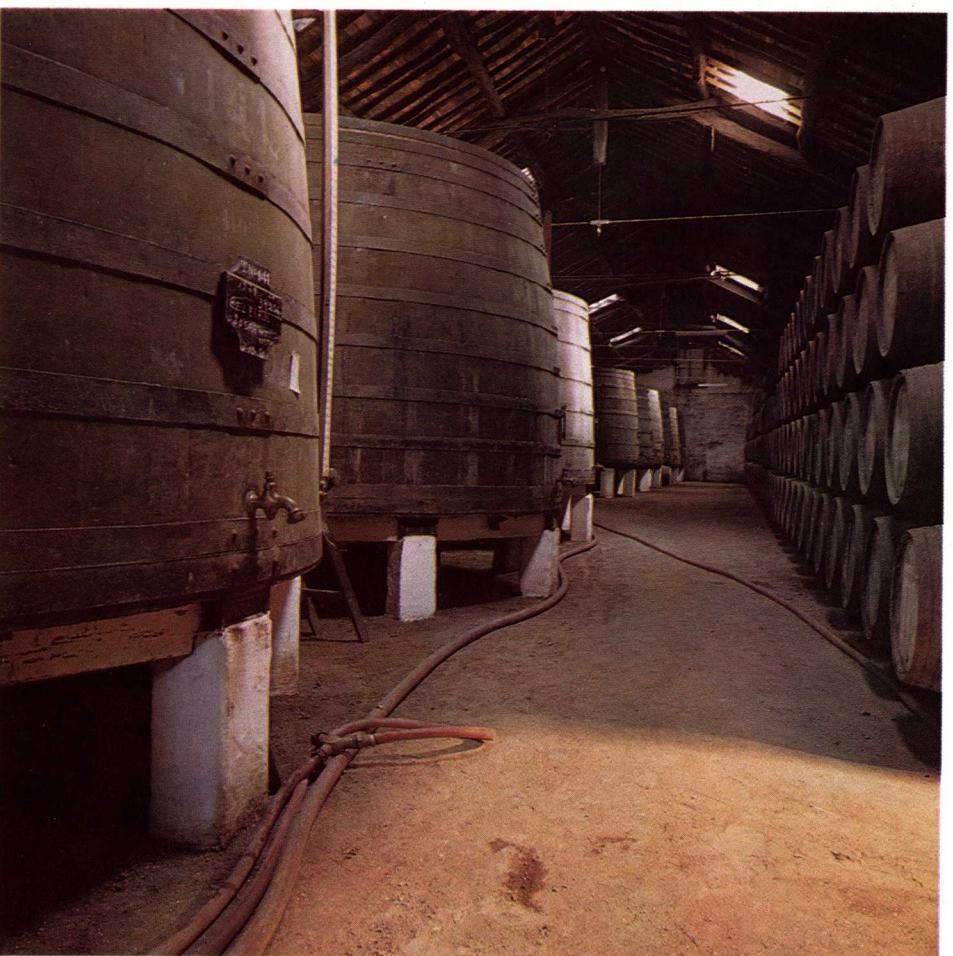


agents, or fixatives of the oxygen. Above all, however, a well matured wine will depend on the quality of the vintage and the care with which it is made and, subsequently, on the maintenance of adequate oxidization by means of racking and aeration, the addition of grape alcohol to compensate for evaporation and, if called for, by "refreshing" with young wine, to ensure that the transformation of the anthocyanins is maintained by wines in which these are still only slightly polymerised.

Apart from the changes in flavour, the colour of the wine is one feature which alters markedly during the process of maturing. This becomes less deep, and alters in tone with the passage of time, the



Making a vat.

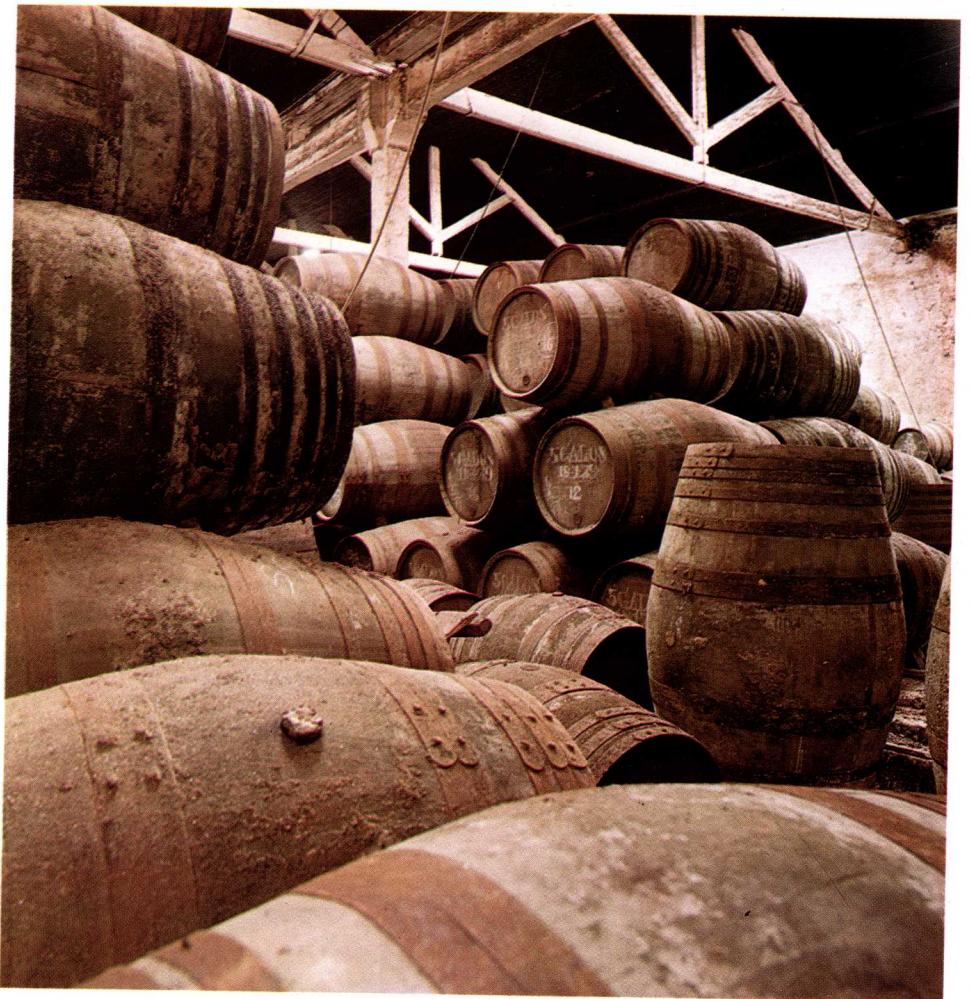


ruby tones of the younger wines shading little by little to increasingly tawny hues.

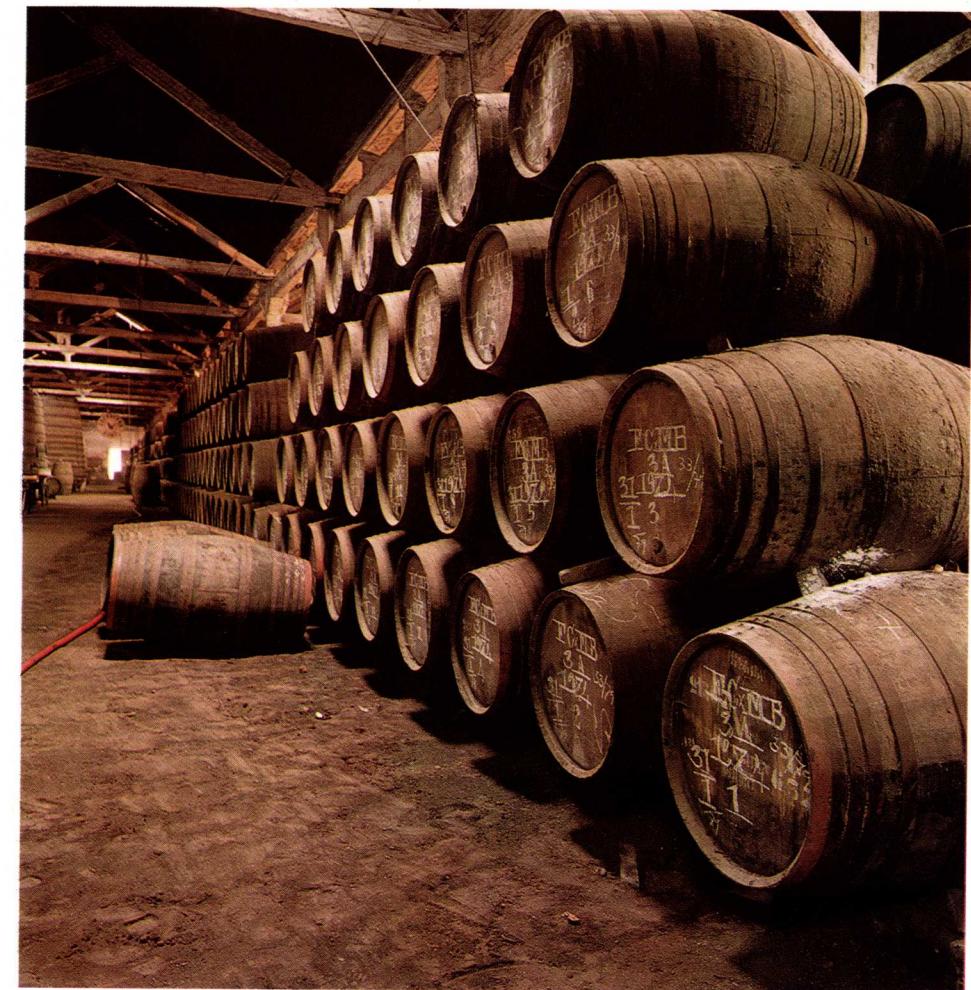
This change in colour has led to Wood Ports being classified into two main groups – the Rubies and the Tawnies; but these have now been subdivided into the following categories; Full, Red, Ruby, Tawny and Light Tawny.

With White Ports the change in colour is less marked and works the other way; thus the white tends to deepen in tone from pale to straw-coloured and then to gold.

When the wines are considered ready to be put on sale, either in bottle or cask, the blends are finally checked to ensure that they correspond



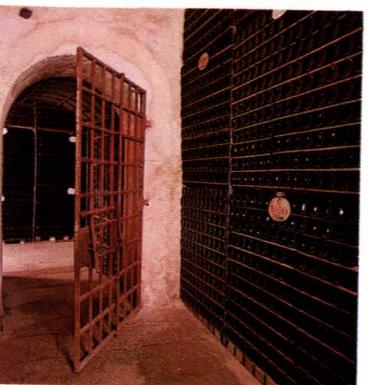
to the various brand-types marketed by individual firms. To stabilize wines physical agents, such as heat and cold, are now being used with some success, along with the traditional methods of clarification, or fining, which are carried out at this stage. The wine-lodges themselves are not remarkable in their particulars. But their great size, coupled with the fact that they lie close to the river and are predominantly north-facing, does ensure a relatively restricted variation of temperature throughout the year, and efforts are made to maintain a certain degree of humidity. The treatment applied to maturing wines is the same whether these are lodged at Vila Nova de Gaia or in the Douro itself.



No Port may be sold for consumption either home or abroad until it is at least three years old. To reinforce this rule, the amount of wine a firm may sell in any one year is made dependent both on its stocks on the 31st December of each year and on the quantity of wine bought at the previous vintage (Decree-Law N.º 47 176 of 2/9/1966).

4.2.2. WINES MATURED IN BOTTLE.

These are the wines more usually known as "Vintage" or "Late Bottled"



Ports, and must meet a number of stringent provisions. They are bottled after a few years in cask and, as will be seen, they mature differently from the Wood Ports. But their speciality is less a question of treatment than of the quality of the wine in the first instance, since only exceptional years produce wines that will develop satisfactorily in bottle.

Thus wines from a particularly good vintage will be singled out for specialised treatment. They are not the result of exceptional ripeness in the grapes but of a perfect balance in their make-up which, it is believed, helps the intricate process of fermentation. However, even after these exceptional vintages, only a small proportion of the wine will be set aside for maturing in bottle. Vintage Port is made only from the best wine from the "quintas" of the most highly reputed areas.

Such wines are not racked so frequently to avoid over-aeration. Nor are they put into cement tanks or large vats, as the smaller cask is considered to provide more controlled and more uniform aeration during the early years.

The wines are tasted frequently and, if the development serves to confirm initial expectations, they are submitted for approval to the Port Wine Institute. If approved, they are then bottled – in the case of Vintage Ports just before they are three years old, and any time between four and six years old in the case of Late Bottled Wines. The bottles are then laid down in dark cellars. The temperature is kept as constant as possible, and both the ventilation and the degree of humidity are controlled.

As the wine is now insulated from the atmosphere, the oxygen absorbed during the bottling is slowly reduced by changes in the anthocyanins and other compounds susceptible to oxidation. The wine loses its colour much more slowly than is the case with the "Wood" Ports and in a rather different way. Bottled Ports retain a characteristic fruitiness, a splendid richness mingled with the freshness of younger wine. To start with they are full-bodied wines, and should keep their fullness of flavour and rich purple-red colour for many years. This may be connected with the relatively small formation of aldehydes and the resulting drop in the

precipitation of their more or less resinated components with the polyphenols.

It is also thought that the fact of these wines being insulated from the air causes the anthocyanins to develop in a special way – the smaller loss of leucoanthocyanins giving a greater percentage of poor condensed forms –, and that these phenomena only operate to fullest advantage when the grapes themselves have reached a certain degree of ripeness, perfection and all-round balance. Vintage and Late Bottled Ports are carefully dated with the year in which the wine was harvested. They are the object of strict controls and, as bottled wines, must have their labels officially approved.

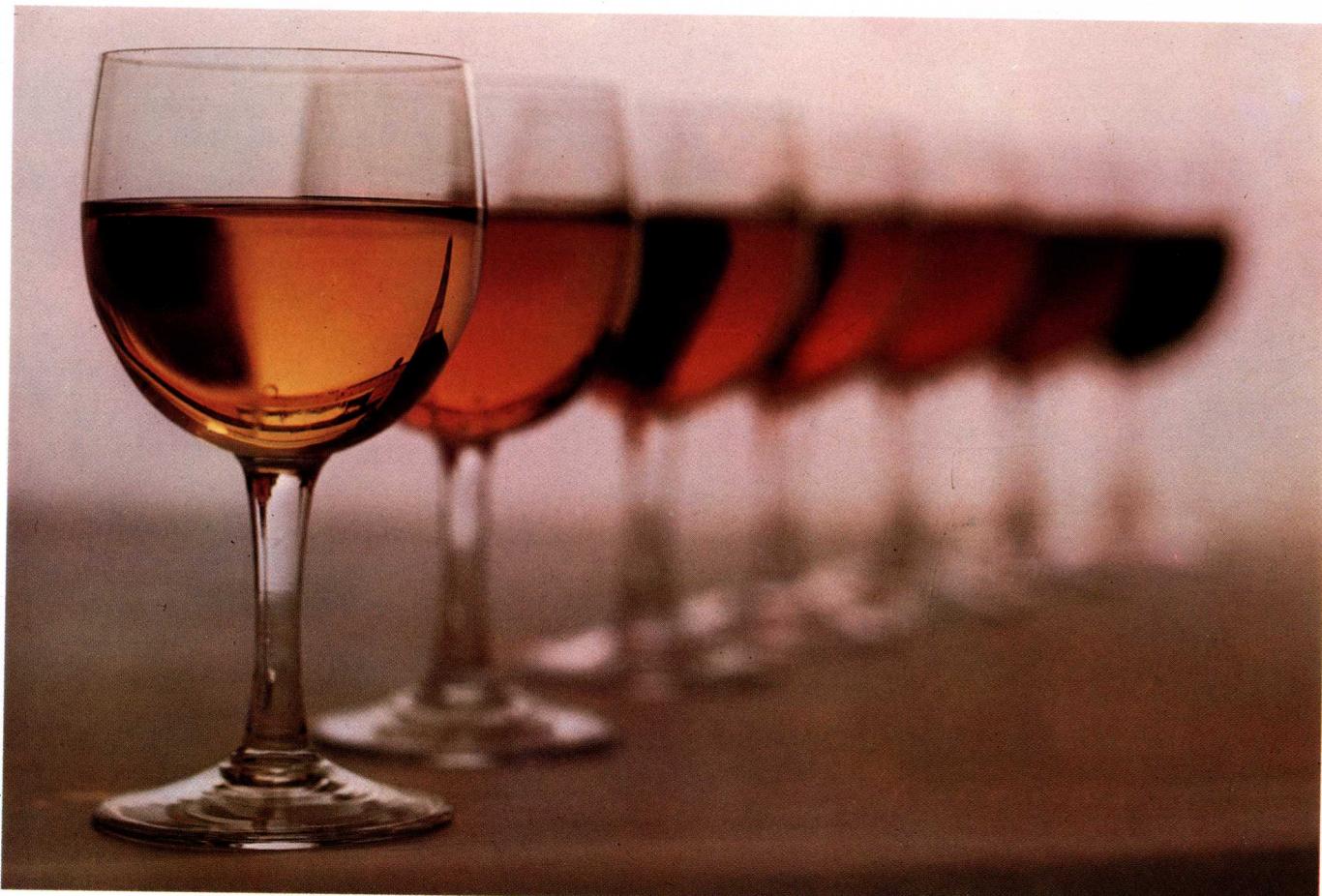
4.3. DEFINITIONS AND CLASSIFICATIONS

- a) Port Wine is a fortified wine produced solely in the Demarcated Region of the Douro, as statutorily defined, which, thanks to its age and quality, has won the title of a "noble" (generoso) wine.
- b) Except in the case of certain special types, Port is matured in wood, and during this period in such a way as to encourage a controlled degree of oxidation.
- c) Alcoholic strength between 19.^o and 22.^o

4.3.1. COLOUR

Port may be Red, Tawny or White, with further subdivision into Full, Red, Ruby, Light Tawny, Pale White, Straw-coloured White and Golden White.

- 4.3.1.1. Red Port – is a vinous deep, or slightly less deep, wine. It is full-bodied and "fruity".
- 4.3.1.2. Tawny Port – as its name implies, is tawny in hue with topaz tints. Tawny Ports are older wines which have acquired added delicacy both of flavour and bouquet, the



result of a peculiar association of "fruitiness" with esterifications.

4.3.1.3. White Port – is a full-bodied wine made from white grapes, but both delicate and "fruity".

4.3.2. SWEETNESS

Where sweetness is concerned, the Port wine Institute recognises four classes of wine, viz: – Sweet, Half-sweet, Half-dry and Dry, depending on the sugar content at a specific gravity of 20° C.

- 4.3.2.1. Very Sweet or "Lagrima": Showing a reading of 1034 to 1048° C (Roughly 4,8° to 6,6° Baumé).
- 4.3.2.2. Sweet: Showing a reading of over 1018 at 20° C (roughly 3° Baumé).
- 4.3.2.3. Half-sweet and Half-dry: Showing readings of between 1008 and 1018 at 20° C. (approximately 1,5 and 3° Baumé, respectively).
- 4.3.2.4. Dry: Showing a reading of less than 1008 at 20° C. (1,5 degrees Baumé).
- 4.3.2.5. Extra-Dry: Showing a reading below 998.° C.

4.3.3. SPECIAL TYPES OF PORT

These wines differ from the general run of Ports both intrinsically and in the way they are made. They include Vintage Port, Late Bottled Port or L. B. V., Port with the year of the Vintage stated, Port with its Age Stated on the Label and Light Dry White.

- 4.3.3.1. Vintage Port: Wine from a single vintage of outstanding quality. It is rich in colour and full-bodied and exceptionally fine both in flavour and in bouquet. The use of the term Vintage and the right to date the wine must be authorised by the Port Wine Institute, in accordance with its specific regulation.

White wines darken with age; the reds lose colour.



- 4.3.3.2. Late Bottled Vintage or L.B.V.: The wine of a single good vintage, with characteristics similar to those of Vintage Port, and accepted by the Port Wine Institute as worthy of the appellation, in accordance with its specific regulation.
- 4.3.3.3. Port with the Year of the Vintage Stated: The wine of a single Vintage, considered good enough by the Port Wine Institute to carry the year of origin on the label, in accordance with its specific regulation.
- 4.3.3.4. Port with the Age Stated on the Label: A high quality Port authorised by the Port Wine Institute to carry its age on the label, in accordance with its specific regulation.
- 4.3.3.5. Light Dry White Port: A wine with a dry finish, made from white varieties of grape especially made to be a light wine. Its minimum strength by volume is 16,5° C and its maximum specific gravity at 20° C is 1008 – i.e. approximately 1,5° Baumé.

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V – PRINCIPAL STATE PAPERS PUBLISHED
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The long years over which the Port Trade has grown up have produced a vast body of legislation, some of it of far-reaching effect, as well as much that is of no more than passing interest. In summarizing this great mass of charters, despatches, decrees, orders in council and other papers, rather than simply listing them all, we have selected those of basic importance – measure which in their days were an innovation and were only copied by others at a much later date. What follows, therefore, should not be taken as being in any way exhaustive. (¹)

5.1. LEGISLATION UNDER POMBAL

- 1) *Arguments put forward by the "leading farmers of the Upper Douro and worthy citizens of Oporto" etc., asking for a Company to be set up (1755).*

This is a lengthy exposé, made up of 59 Sections which came to be used as the basis for the Statutes of the new organisation.

- 2) *"Alvará Régio of 10 September 1756"*

This gave approval to the setting up of the Company and its Statutes.

(¹) For reference purposes it has seemed better to retain the Portuguese names for these various pieces of legislation. In any case there is not always an exact English equivalent. (Translator's note).

There were 53 Chapters. Of these, the most important – N.^{os} X, XIV, XXIX, XXX and XXXIII, dealing with the objects of the organisation, its capitalization, the price of wines and the demarcation of the Region – have already been dealt with in Chapter I. It may suffice here to make passing reference to certain points of interest in the remaining sections.

The Governing Body comprised a Governor, Twelve Deputies and a Secretary; there were also six Counsellors – “persons well versed in this trade.” The Company also had its own Custodian Judge with internal powers and a Procurator Fiscal.

The capital raised was “one million, two hundred thousand cruzados in shares of four hundred thousand reis each (1); half of which may be held in reasonable and saleable wines in which the Shareholders may have an interest; the other half being in real support of demands from both growers and merchants. The Company was also allowed to make loans to the farmers at a yearly interest of 3%, for the making of wine, the upkeep of the vineyards and even for “petty expenses which are needful to the maintenance of human life from day to day.”

This charter was signed by King José I and his Secretary of State for Affairs of the Realm, Sebastião José de Carvalho e Mello.

3) *Alvará of 30 August 1757*

Forbade the manuring of vineyards; the use of elderberry in the making of wine, and the planting of elders within 16 miles of the boundaries of the Factory Zone. The mixing of white grapes with red was also prohibited.

As it was foreseen that the ban of the use of manure would lead to a fall in production, the prices of first-quality wines were raised from 25 000 and 30 000 to 30 000 and 36 000 réis per pipe respectively, and those of 20 000 and 25 000 to 25 000 and 30 000 réis.

This measure, taken to bolster quality, showed a sound knowledge of the physiology of the vine.

(1) V. Chapter I, p. 25.

4) *Alvará of 16 December 1760*

Gave the Company sole rights in the setting up of the necessary brandy distilleries in the three provinces of Beira, Trás-os-Montes and Minho, and fixed prices at 87 000, 65 000 and 47 000 réis, according to quality. (1)

This shows that the influence of brandy on the quality of Port was already recognised. Personnel was to be sent to well-known centres for specialized study of distilling techniques. The foresight shown and the success of the scheme deserve to be stressed.

5) *Alvará of 30 December 1760*

Ordered and annual inquiry into infringements of Company rules as laid down by the Alvará of 30 August 1757, until such time as further legislation should be introduced, and into appropriation of Company moneys for personal ends.

6) *Aviso of 18 February 1761*

Established the brandy distilleries. Proposed, among other things, the purchase of the best-known distillery in the region.

7) *Edital of 4 March 1761*

Aimed, among other things, at “restraining the unthinking and ungrateful infringements of Articles X – XIV and XXXIII as clearly set out in the Company’s Charter by the Farmers of the Douro, who can only reduce themselves thereby to the misery in which they previously found themselves.”

This was a call-to-order to those attempting to contravene the rules laid down and avoid the scale of prices aimed at protecting quality.

(1) J. Ferraro Vaz, op. cit., 87 000 réis, 65 000 réis and 47 000 réis were the equivalent of respectively Esc. 55.652\$00, Esc. 41.579\$00 and Esc. 30.065\$00.

8) *Edital of 13 November 1761*

Continued the policy of protecting quality wines, and laid down sanctions for farmers who "led on by the detestable urging of base ambitions ... have adulterated a great part of the export wines, not only by mixing white grapes with red, but also by the introduction of much inferior wine into the region and the blending of this with the wines of the demarcated zone."

9) *Aviso of 2 March 1763*

Referred to the consequences of the Seven Years' War and, with a view to bolstering the Company's finances, proposed that it be allowed to buy 9 or 10 thousand pipes of wine on credit. It claimed that it was the only way in which the damage from the cheap prices, with which the foreign buyers "threatened" the Douro, was to be avoided. The ills that this Despatch aimed at curing stemmed from a lack of liquidity due to the funds withdrawn by England as a result of the war, aggravated by the abnormally large exports of wine to Great Britain in 1762. The stock-piling of this wine at London docks has resulted in a fall in local demand and a consequent drop in prices.

10) *Alvará of 24 November 1764*

Granted patents of nobility to all those holding ten or more shares in the Company.

11) *Edital of 3 September 1765*

Aimed at checking the adulteration of Factory wines with inferior ones. Producers in the zone were to declare the total

quantity of their wine lodged either in their own or other warehouses within 8 days of the end of the vintage. Penalties were laid down for infringement or false declarations. Such measures, showing a keen understanding of human nature, are still pertinent and continue to offer protection against fraud.

12) *Alvará of 16 January 1768*

Reinforced measures already taken to curb adulteration. To end "such scandalous practices" it was decided that a map and general register of the districts producing table wines should be drawn up as soon as possible. This would show the production of each property "based on the general estimate or average of production over the five preceding years". The conveyors, carters & c. responsible for transporting such wine into the Factory Zone, "apart from having to surrender their pack animals, oxen and carts to the Company, would be condemned to spend three years in His Majesty's galleys, without remission".

13) *Alvará of 17 October 1769*

Though the previous edicts had called attention to the irregularities then current, it was recognised that speculators and "interlopers" had bought up a large part (about one third) of the vintage then completed. As a result, not only were many English Firms unable to buy a pipe of wine for their stock, but the Company itself could only buy a quarter of the amount needed to fulfil the obligations resulting from its privileges and monopolies.

Such pre-emptive tactics, when the grapes were scarcely harvested, made it impossible to tell the quality of the wines being bought or sold. The tasting and classifying of the new wine was made impossible; while prices paid for wines

that had often not yet even been made were the highest the law allowed, and sometimes higher as a result of "savings" changing hands outside the contract.

Lastly it was claimed that three firms among the buyers, disparagingly termed under-the-counter associations, were doing grave damage to the economy of the district by their activities.

All this led to the issuing of the Alvará of 17 October 1769 which, in the light of this sharp practice:

- a) denounced the machinations of the aforesaid associations of merchants of dishonest intent who, while not themselves exporters to Northern Europe, realizing that the grape-crop was small, had pre-empted a large part of the harvest.
- b) decreed that the sale of Douro wines could not take place before the 20 November, and then only after their quality had been approved by tasting.
- c) set 1 February as the earliest date on which buyers who were not exporters to Northern Europe would be allowed to purchase wine within the price limits laid down by law.
- d) embargoed all export wines from the 1769 vintage until these had been classified by the Company's Custodian Judge and Procurator Fiscal and their team of experts. The wines were then to be offered to the Company and other merchants according to their needs, "without regard to the reprehensible and clandestine sales to the interlopers", all of which were deemed null and void.
- e) established heavy penalties for those whose wines were not classified or who ignored the legally established rates.

14) *Editais of 26 February, 12 March and 25 May 1770*

Regulated "the sale of so-called "tub" wines, precious to poor farmers who only have a few *almudes* of wine of their own-growing and, understandably do not possess treading-tanks

or storage pipes".

These measures show a marked social awareness, protecting the small-holder but controlling speculation and law-breaking.

15) *Alvará of 26 September 1770*

Raised the prices for brandy, previously fixed in 1760, to 110 000, 72 000 and 50 000 réis, according to quality. This meant a boost of more than 20% for 1st quality spirit, some 10% for 2nd quality brandy, and of more than 10% for the 3rd grade.

16) *Decreto of 16 November 1771*

Ordered an investigation aimed at stopping the entry of table wines into the Factory Zone. This was most rigorously carried out, with the cooperation of the army, and lasted until 1774.

17) *Alvará of 5 February 1772*

Experience having shown that the white wines of the Douro were not so highly esteemed as the reds, they could not be expected to fetch equivalent prices. For this reason the prices for white wines from the Factory Zone were substantially reduced.

18) *Alvará of 10 April 1773*

Owing to the excessive increase in the cultivation of white grapes, this ordered farmers to graft such vines with red varieties within two years. It aimed at preventing the mixing of red and white wines.

19) *Alvará of 16 December 1773*

The high price of wine had led to a marked extension of the vineyards. These had spread over corn lands and had led to the destruction of olive- and chestnut groves. The royal warrant, therefore, ordered the uprooting of some vineyards, among them those in the valley of the Ribeira dos Jogueiros and in the low-lying fields on either bank of the Douro. It also controlled new planting which now required a special license. This was a notable measure. It is thought to be the first instance of grape-growing in Portugal requiring official permission.

20) *Alvará of 20 December 1773*

Approved the appointment of a "Pareador Geral", an official inspector of container capacities. Private assessors were no longer to be permitted.

21) *Alvará of 4 August 1776*

Measures aimed at preventing certain farmers and others from the three northern provinces bringing in table wines to Oporto, Aveiro and other localities for subsequent export under the name of Port.

5.2. LEGISLATION AFTER POMBAL

22) *Alvará of 9 August 1777*

The first piece of legislation relating to the Company in the reign of Queen Maria I authorised the free entry of wine into

Brazil, a trade of which the Company had hitherto held the exclusive rights.

This was the first of many blows suffered by the Company after Pombal's eclipse.

23) *Aviso of 22 September 1777*

Ordered the Company, without further delay, to cease operations in the table wine districts of the Upper Douro, and allowed the farmers and inhabitants of the region to sell the wines of the district either in taverns or retail. The Company was to retain only the business of such wine-shops as it had itself set up, or such as it might need to set up in the export zone where it still operated. Farmers in the Factory Zone, whose wines had been refused for export, could now apply to the Company for a license to trade in these from their own houses. It is easy to see how such measures tended to undermine the controls previously in force.

24) *Aviso of 1787*

Owing to the high level of exports and the fact that this year's vintage was not expected to be large, Her Majesty agreed, "provisionally" and for this year only, to the inclusion of farmers whose wines sold for 19 200 réis per pipe as producers of export wines, once their produce had been approved for shipment. A quantity of wine equivalent to that now considered fit for export, and which had previously sold for 15 000 réis the pipe, might now be sold at 19 200 réis.

25) *Aviso of 6 March 1788*

Ordered a "count" and listing of vineyards producing wines of a richness and quality equal to those of the existing demarcation.

26) *Aviso of 2 May 1788*

The zeal and successful operations of the Company having shown that the wines produced in the Demarcated Region were no longer sufficient, Her Majesty ordered the immediate inclusion of all properties considered worthy of the privilege.

27) *Resolução Régia of 6 September 1788*

Approved the list of properties and vineyards which, after tests, reports and on-the-spot inspection, were considered capable of producing wines fit for export to the English market.

The properties capable of producing high-grade table-wines, in place of those now included in the export zone, were listed at the same time, as were those parishes which produced wines for sale at 10 500 réis.

These various extensions were to remain in force for so long as they were considered to be in the public interest, but such properties were to be excluded from the demarcation as soon as they were shown to prejudice the trade.

28) *Edital of 17 November 1788*

Allowed red wines from the vineyards planted between demarcated properties on the hillsides of the Rivers Douro, Sermenha, Corgo and Baroza up as far as the Cachão to be sold for 15 000 réis per pipe.

29) *Resolução of 19 May 1790*

Ordered the inclusion in the Subsidiary Demarcation already approved by Her Majesty, of certain vineyards which, though within the new boundaries, had not been approved as a result of their owners' names having been overlooked when

drawing up the list.

This very considerable extension included not only vineyards producing export wines but also those producing table wines of 19 200 and 15 000 réis.

30) *Edital of 6 December 1791*

Allowed the wines sold at 19 200 reis to be classed as export wines provided these on tasting were considered to be of adequate quality.

31) *Alvará of 17 October 1799*

Authorized an increase in the prices of brandy. These, it should be noted, had remained unchanged for the last 29 years.

32) *Alvará of 21 September 1801*

Sought to control irregularities arising from the adulteration of export wines with those of inferior quality. This is a curious document and couched in curious terms. To discourage the fraudulence said to be prevalent, a scale of prices was included, the increase in these being justified by the dearth of foodstuffs and the rise in wages.

Three grades of export wines were listed: that which was itself sound and good enough to improve other wines; wine the quality of which was only "sufficient unto itself"; and wine that, albeit not itself without quality, needed help from the superabundant qualities of the first group.

Capacities of containers in the producers' lodges were to be checked, and their vats and casks branded.

Prices for export wines were fixed at 40 000 and 36 000 réis in years of dearth, and 36 000 and 30 000 réis in normal years. Third grade wines were excluded from the export quota, though the

Company had to buy these, and producers to sell them, at 20 000 réis the pipe ⁽¹⁾.

33) *Alvará of 9 February 1803*

Classes in Mathematics, Business and the French and English languages were started in Oporto under the direction of the Board of the Company. A tax was levied on each pint of wine sold in the city and in the region in which the Company exercised its monopoly to raise funds for a building to house these classes. On 29 July the course was extended to include Rational and Moral Philosophy and Agriculture.

34) *Treaty of Trade and Navigation of 1810*

Despite the high hopes placed on this agreement with Britain, the average exports for 1811-1833 fluctuated around 27 483 pipes. This decline can be attributed to the economic crisis in Britain as a result of the long struggle with France which was only to end with the defeat of Napoleon at Waterloo in 1815. But at this point the British economy was decidedly shaky.

35) *Carta de Lei of 17 May 1822*

Maintained the Company in existence but altered a number of its privileges. The separate demarcations for export and table wines were done away with, though the extreme boundaries of the demarcated zone were maintained. Mention was made of inventories, tastings, and the obligation to dispose of wines unsold at the Régua fair etc.

Though it upheld the Company's existence and stressed the need for balancing supply and demand, this charter gives a foretaste of the profound changes ahead. Among the

(1) J. Ferraro Vaz, op. cit., 20 000, 30 000, 36.000 and 40.000 réis, corresponding to Esc. 12.797\$00, 19.195\$00, 23.035\$00 and 25.594\$00, respectively.

Company's privileges which it abolished were the export monopoly to Brazil, and its rights to promote and carry out public works.

36) *Lei of 20 December 1822*

Regulated the tastings of Douro wines, and dealt with the election of the tasters.

37) *Decreto of 30 May 1834*

Marked a profound alteration in the law. The Company, which had done so much for the prosperity of the Douro region and for the good name of Port, found itself stripped of all its monopolies and privileges. It now became a purely commercial concern without any special advantages.

38) *Carta de Lei of 7 April 1838*

"Restored" the Company for a period of 20 years, but without its earlier almost para-statal powers. These were now reduced to the checking, tasting, branding and the issue of bills of lading for the wines of the Upper Douro. Apart from its trading activities, the Company's responsibilities were but a shadow of what they had earlier been.

This charter also stipulated that approved wines should continue to be shipped across the bar of the Douro.

39) *Carta de Lei of 21 April 1843*

Modified and extended the previous Carta de Lei of 1838.

40) *Regulamento of 23 Octobre 1843*

Put into effect the foregoing Charter, and detailed the means by which samples might be obtained for confidential tastings. It also ordered the holding of annual wine sales at Régua which were to last for six days.

41) *Carta de Lei of 7 December 1865 – Extinction of the Company*

Opened the bar of the Douro to the export of any Portuguese wine.

This measure, conforming to the views of the time, seems to have been based on a short-sighted desire for quick returns. That particular ports should keep exclusive rights of export is obviously an advantage when it comes to controlling the origins and quality of the products in question.

42) *Convention of Paris for the protection of industrial property – 20 March 1883*

Subsequently revised at Brussels (1900), Washington (1911), the Hague (1925), London (1934), and by the Agreements of Madrid (1891) and Lisbon (1958).

The Paris Convention of 1883, subscribed to by 40 governments, aimed principally at protecting in the signatory countries "commercial names, provenance and original nomenclature".

It set up the Bureau International pour la protection de la propriété industrielle in Berne. This centralised the register of marks and patents together with the guarantees promised by each country.

As far as names of origin were concerned this was a timid first step. It was reinforced, though hardly very strongly, by the subsequent agreements.

It was not until the Lisbon Agreement of 1958 that the European wine-producers after long and bitter experience got around to defining and defending their products on an international scale.

This was a most important measure, and Article 2 of the Agreement deserves transcription:

Art. 2 – 1: Under the terms of the present Agreement, a denomination of origin is understood to mean the use of the geographical name of a country, region or locality when applied to a product originating from there, the characteristics of which are exclusively or essentially due to geographical factors both natural and human.

2: The country of origin is that of which the name is used, or in which the region or locality is situated when the name of either of these is used in the denomination of origin for having given the product its renown.

It may be noted that the Lisbon Agreement confirmed the principles adopted in 1947 by the Office International de la Vigne et du Vin (O.I.V.).

It must be admitted that the deceptions which these international rulings were designed to combat have not all been eliminated, either because many countries were not parties to the various agreements, or simply because they have not been honestly applied.

The Treaty of Rome, which in 1957 brought the E.E.C. into being, helped to increase respect for Names of Origin in the six signatory countries and in others which were in some way linked to them. This treaty specified a class of "Quality Wines from Particular Regions" (V.Q.P.R.D.) which followed the same principles as the earlier "Wines with Names of Origin".

5.3. LEGISLATION UNDER JOÃO FRANCO

43) *Decreto of 10 May 1907 (João Franco's Decreto dictatorial N.º 1)*

Set up new rules for the production, sale, export and control of Portuguese wines. The Douro Region was once again demarcated (by municipalities). After the final extinction of the Company in 1865, the Douro Demarcation had lapsed. The new legislation reverted to the old formulas of demarcation and Denomination of Origin, but the new boundaries were too greatly enlarged, and in the following year (Decreto of 27 November 1908) they were revised.

44) *Decreto of 16 May 1907*

Regulated the Port Wine Trade in the light of the preceding decree, and set up the Comissão de Viticultura da Região do Douro.

45) *Decreto of 27 June 1907*

Gave rulings on trade in brandies and spirits, and on the concession of export bonuses.

46) *Decreto of 2 December 1907*

Suspended plantation of vines for three years in lands below the 50 metres line, and in other areas subject to floods.

47) *Carta de Lei of 18 September 1908*

Exempted the Government from responsibilities connected with

the legislation suspending the plantation of vines for 3 years, and dealt with measures concerning fortified and other wines.

48) *Decreto of 1 October 1908*

Legalized the measures regarding the sale and export of fortified wines, as outlined in the previous Carta.

49) *Decreto of 27 November 1908*

A new code for the Port Wine Trade. The Douro Region was once more given new boundaries. It was found to be urgently necessary to correct the excessive expansion of the previous year. The new Region was made up on the basis of parishes rather than municipalities, and its area drastically reduced to what are roughly its present limits. This shows that the scheme was soundly based.

5.4. LEGISLATION AFTER JOÃO FRANCO

50) *Decreto n.º 4 655 of 10 July 1918*

Further regulations regarding production of and trade in Port. Once again the parishes and isolated properties making up the Demarcated Region were listed.

51) *Decreto n.º 7 934 of 10 December 1921*

Dealt with the Port Wine Trade, and confirmed the Demarcation as outlined in Decree n.º 4 655 of 10 July 1918.

52) *Portaria n.º 3 702 of 24 July 1923*

Authorised the federation of the agricultural syndicates of the Port Wine District.

53) *Decreto n.º 11 881 of 13 July 1926*

Set up a private laboratory in Gaia, under the surveillance of the Inspecção da Fiscalização da Comissão de Viticultura da Região do Douro, for analysis of any wine or brandy which the body considered doubtful.

54) *Decreto n.º 12 007 of 31 July 1926*

Set up and legalized the Entrepôt for Port in Vila Nova de Gaia. This was a clearly – defined area within which all Port Wine must be lodged and members of the trade must have their warehouses. It was an extension of the Demarcated Region in the Oporto district, and remains as such.

This was an important innovation and has done much for the good conduct of the Port trade.

The Entrepôt set up by this Decreto was regulated by Decreto n.º 13 167 of 1 February 1927, later altered by Decreto n.º 16 330 of 8 January 1929. The limits of its area were later defined by a line described by article 1 of Decreto n.º 42 605 of 21 October 1959, which also introduced other alterations.

55) *Decreto n.º 17 292 of 2 September 1929*

Dealt with the financing and working of vineyards in the Douro Region.

56) *Decreto n.º 20 956 of 2 March 1932*

Referred to the Port Wine district and the Entrepôt and to the chemical and organoleptic features of the different types of Port.

5.5. CORPORATIVE LEGISLATION

57) *Decreto n.º 21 883 of 18 November 1932*

Set up the Federação dos Viticultores da Região do Douro (Growers' Federation). This title was abbreviated, and the body became legally referred to as the Casa do Douro. This was the first piece of Corporative legislation affecting the Region. Understandably it was later modified until it reached its final form in the Decreto n.º 30 408 of 30 April 1940.

58) *Decreto n.º 22 460 of 10 April 1933*

Ruled on a number of matters concerning exports of Port, and set up the Grémio dos Exportadores de Vinho do Porto. This really established the trade on a Corporative basis. The organisation represented the business side of the Port Wine trade and membership was made obligatory. By disciplining business methods, it protected and controlled the collective interests of the exporting firms. It also fixed minimum stocks.

59) *Decreto n.º 22 461 of 10 April 1933*

Set up the Instituto do Vinho do Porto and listed its functions.

This is a complex body which, among other things, supervises the quality and guarantees the origin of the wines; disciplines and acts as arbiter in dealings between farmers and wine-merchants; promotes technological and economic research; and, through public relations, fosters the expansion of the Port Trade.

The Institute was reorganised by the Decreto-Lei n.º 26 914 of 22 August 1936. This remains in force today with the exception of Article 11, which was modified by the Decreto-Lei n.º 42 604 of 21 October 1959, setting up the Board of Tasters.

60) *Decreto n.º 23 590 of 22 February 1934*

Prohibited the plantation of new vines in the whole country.

61) *Decreto n.º 23 638 of 7 March 1934*

Allowed the Instituto do Vinho do Porto to issue bonds on a mortgage basis.

62) *Decreto n.º 24 276 of 31 July 1934*

Laid down that Port might only be exported across the bar of the Douro or from the neighbouring port of Leixões. This helped to control and guarantee authenticity.

63) *Decreto n.º 24 340 of 10 August 1934*

Ordered the drawing up of a register of the properties in the demarcated zone so that these might then be classified. This was the start of what was eventually to become the most comprehensive register of any wine-growing region.

64) *Decreto n.º 24 382 of 18 August 1934*

Ruled that Port Wine both for export and home consumption must be submitted to an official Chamber of Tasters attached to the Instituto do Vinho do Porto, as well as to its Advisory Committee. This marked the recognition of the importance of tasting in any assessment of a wine's quality, and the fact that its appeal to the senses must be considered equally with technical analysis.

65) *Portaria n.º 8 198 of 12 August 1935*

Laid down guide-lines for the allocation of the "beneficio" in the Demarcated Region.

This document is of importance in being the first attempt to regularize the allocation on a quality basis by giving preferential treatment to the better sited vineyards at the expense of those in less favoured situations.

66) *Decreto n.º 26 899 of 19 August 1936*

Ruled on the amount each Port firm might export, sell or cede, in exchange or on loan, in each financial year. This was an indirect way of encouraging firms to build up reserves, and thus a guarantee that the wines would have time to mature in the lodges. As such, it was an important innovation.

67) *Decreto n.º 26 916 of 22 August 1936*

Authorized the planting of new vineyards in the Demarcated Region. At the time of its publication new plantations were forbidden throughout the country, and great care was taken

over this concession to the Port wine zone. In each case the Instituto do Vinho do Porto was called on to give its opinion from the point of view of the economy of the trade, and the Posto Vitivinícola at Régua had to assess the technical side.

68) *Decreto n.º 29 589 of 11 May 1939*

Allowed the exports and sales of Port to be increased by the purchase of fortified wine from the Douro which was over 5 years old and considered to be sound on the nose and palate.

69) *Decreto n.º 29 601 of 16 May 1939*

Dealt with various matters connected with the Port trade, and legalized the issue of "Certificados de Existência".

70) *Portaria n.º 9 773 of 5 April 1941*

Made the use of official seals guaranteeing origin obligatory for all bottled Ports. It also ruled on the wording used on labels according to the type of wine in question.

71) *Decreto n.º 35 909 of 17 October 1946*

Declared the granite boundary posts, set up by the Company between 1758 and 1761 to mark the original Demarcation, to be scheduled monuments.

72) *Decreto n.º 38 525 of 23 November 1951*

Ruled on the planting of vineyards in Metropolitan Portugal.

Adjusted and revoked some previous legislation, but upheld the obligation to consult the Port Wine Institute and obtain its authorization to plant new vineyards.

73) *Portaria n.º 14 491 of 7 August 1953*

Ruled on the varieties of grape to be used for grafting on new root-stock in each zone.

74) *Decreto n.º 40 278 of 12 August 1955*

Dealt with measures to stimulate the growth of the Port trade.

75) *Decreto-Lei n.º 46 256 of 19 March 1965*

Forbade any further extension of existing vineyards. This was aimed at curbing a dangerous over production of wine of all kinds that had resulted from earlier legislation (bills of 21 October 1944, 23 November 1951 and 11 April 1957 in particular) unmentioned here since it was not specifically concerned with the Douro Region.

76) *Decreto n.º 47 176 of 2 September 1966*

Laid down the rules to which all member firms of the G.E.V.P. were to be subject as from 1 January 1967, concerning exports, the sale or cession, either by exchange or loan, of such wine as exceeded their sales rights.

The amount of wine any shipper was allowed to sell was governed by the stocks registered in the firm's name with the Port Wine Institute on 31 December of the previous year. The scale was as follows:

- a) One third of such wines as were more than a year old.
- b) 30% of the wine bought at the preceding vintage, provided that these purchases were over 75% and under 125% of the firm's sales during the previous year.
- c) 15% of the wine bought at the previous vintage, if the purchases had exceeded 125% of the previous year's sales.
- d) When a firm's purchases at the vintage fell below 75% of its previous year's sales, the amount would be based on the formula $\frac{A}{B} = \frac{30}{X}$ A being the 75% required minimum, B the amount actually bought, and X the resulting percentage.

Shippers might increase their sales capacity by buying more fortified wine from the farmers or from the Casa do Douro during the year. The proportion allowed to be sold would depend on the age of such wines, as follows:

Less than 3 years old	20%
From 3 to 4 years old	40%
From 4 to 5 years old	60%
From 5 to 6 years old	80%
Over 6 years old	100%

At least half of such purchases should be of wine that would entitle the firm to a 40% right of sale.

5.6. POST-CORPORATIVE LEGISLATION

77) *Portaria n.º 379/75 of 21 June*

Established the degree of sweetness for various types of Port, based on volume and the volumetric degree of alcohol.

78) *Decreto-Lei n.º 460/76 of 9 June*

Granted the Port Wine Institute the exclusive right to acquire brandies and vinous alcohols and to supply these to farmers and producers in the Demarcated Region and the Gaia Entrepôt for the making and subsequent treatments of their Port.

79) *Decreto-Lei n.º 436/78 of 28 December*

Ruled that an Entrepôt should be established at Régua on an experimental and temporary basis, to store and trade in fortified wines from the Region. Only the present lodges of the Casa do Douro at Régua are included in this measure. A joint-stock Company, in which the Casa do Douro will be the majority share-holder, is to be set to work the Entrepôt. Here the Port Wine Institute will have the same functions and responsibilities as in the case of the Gaia Entrepôt.

80) *Decreto Regulamentar n.º 60/79, of 06 October*

Sets up the Centro de Estudos Vitivinícolas do Douro, incorporating the functions of the former Estação Vitivinícola do Douro.

ÁLVARO MOREIRA DA FONSECA

The death of Moreira da Fonseca on 26 November 1980 meant that he did not live to see the publication of this work for which he had shown so much enthusiasm – drawing on his vast knowledge of the Douro and the legislation that has governed the Region since the days of Pombal.

Quietly meticulous, at once observant and critical, Moreira da Fonseca's good nature and optimism were irresistible. And let no one suppose that his researches were confined to the quiet corridors of Libraries and Historical Archives. He knew the harsh reality of the Douro, having clambered across its stony hillsides and explored its remotest corners.

It is only just that his collaborators in the present work should express their appreciation of all his help, and record their affection for him as a man.

